UNITED STATES DEPARTMENT OF AGRICULTURE

YEARBOOK 1922



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FOREWORD.

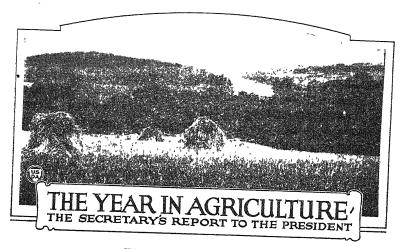
The Yearbook for 1922 continues the plan adopted for the Yearbook for 1921 of presenting in a somewhat detailed manner the economic situation regarding five of our leading agricultural products—hogs, dairy, tobacco, small grains other than wheat, and forestry. Wheat, corn, beef, and cotton were treated in the Yearbook for 1921. The object is to give the history of each subject, the present situation, and the future outlook.

The World War and the unprecedented advance in prices of all commodities culminated in a demand by farmers for the collection of market statistics by governmental agencies. The precipitous decline of prices following the World War resulted in an unusual interest in price data. The statistical part of the Yearbook has been accordingly expanded to meet this demand. About 150 pages of statistics have been added to the 1922 Yearbook. The additions include market prices, freight rates, receipts and shipments, foreign prices, and forestry statistics.

HENRY C. WALLACE, Secretary of Agriculture.

CONTENTS.

	Page.
The Year in Agriculture	1
H. C. WALLACE.	
Timber: Mine or Crop?	83
W. B. Greeley, Earle H. Clapp, Herbert A. Smith, Raphael Zon, W. N. Sparhawk, Ward Shepard, and J. Kittredge, Jr.	
Hog Production and Marketing	181
E. Z. Russell, S. S. Buckley, O. E. Baker, C. E. Gibbons, R. H. Wilcox, H. W. Hawthorne, S. W. Mendum, O. C. Stine, G. K. Holmes, A. V. Swarthout, W. B. Bell, G. S. Jamieson, C. W. Warburton, and C. F. Langworthy.	
The Dairy Industry	281
C. W. LARSON, L. M. DAVIS, O. A. JUVE, O. C. STINE, A. E. WIGHT, A J. PISTOR, and C. F. LANGWORTHY.	
History and Status of Tobacco Culture	395
W. W. GARNER, E. G. Moss, H. S. Yohe, F. B. Wil-kinson, and O. C. Stine.	
Oats, Barley, Rye, Rice, Grain Sorghums, Seed Flax, and Buckwheat	469
C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN.	
Appendix:	
Prepared under direction of Nat. C. Murray, L. B. Flohr, and O. A. Juve, Bureau of Agricultural Economics.	
Statistics of Grain Crops	569
Statistics of Crops Other than Grain Crops	666
Live Stock	795
Forest Statistics	914
Imports and Exports of Agricultural Products	949
Miscellaneous Agricultural Statistics	983
Farm Operations	1045
Index	1079



Washington, D. C., November 15, 1922.

To the President:

If financial rewards were measured out in proportion to the results of honest, productive effort (unfortunately they are not always), the farmers of the Nation would have little reason to complain of their returns this year. In contrast with various other groups of workers they have produced abundantly and without cessation. This year the acreage of the 14 principal crops is about 337,000,000 acres, which is 7,000,000 acres above the 10-year average, and but 1,000,000 acres below last year. Production of these 14 crops is estimated for this year to be a total of about 265,-000,000 tons, which is 11,000,000 tons above last year and above the 10-year average. This great total is the result of long hours of hard work, aided by favorable weather conditions. If the relationship between prices now was such as existed before the war, this would be a prosperous year for agriculture, and consequently a prosperous year for the Nation. With the distorted relationship of prices at the present time, the farmers, notwithstanding their hard work and large production, find themselves still laboring under a terrible disadvantage as compared with other groups. There is food in superabundance, and this contributes to the prosperity of business and industry for a time, but the inadequate return which the farmer is receiving, and has received for three years, inevitably must result in readjustments in the number of people on the farms and in the cities, which will not be for the continuing good of the Nation.

In my report last year I dealt at some length with the unfavorable economic conditions affecting our agriculture, and pointed out particularly the greatly reduced purchasing power of the farmers, who comprise about one-third of our population, caused by the decline of prices of farm products to below the pre-war level, while prices of most other things remained from 50 to 100 per cent above the pre-war level. Much of what was said in my report at that time applies to conditions now existing. There has been some increase in prices of farm products, but there has not been much improvement in the general relationship between the prices of the things the farmer produces and of the things he buys.

Harvest time last year found most agricultural products selling at bankruptcy levels. During the early spring of this year the farmer's condition was improved by substantial increases in the prices of many farm products, although this improvement did not inure to the benefit of the farmer as much as it should, since the major portion of his products had passed out of his own hands. Of the 12 representative farm products—cotton, corn, wheat, hav, potatoes, beef cattles, hogs, eggs, butter, tobacco, sheep, and wool-7, cotton, corn, cattle, hogs, tobacco, sheep, and wool, show advances in prices this year as compared with the same month last year. The other 5 were selling in September at prices lower than the prices in September, 1921. If we take all farm products and express prices in terms of index numbers, we find that the index for August, 1922, stood at 123 as compared with 122 for the year 1921.

The index number varies somewhat with different regions. Roughly speaking, it is lower from Ohio east, about the same in the Middle Western States, lower in the Northwest, and considerably higher in the Southern States, the latter being due to the very substantial advance in the price of cotton.

While the prices of many important farm products have advanced considerably over last year, this advance has been accompanied by equally large or larger advances in the price of other commodities. For example, the index of wholesale prices of commodities other than farm products was 176 in August of this year as against 150 in August, 1921. For a time last spring farm prices had advanced more, relatively, than prices of other things. This advance

was not fully held, as was to be hoped for. The index of purchasing power at the present time is about what it was in December, 1921, which was at the lowest point since the war. In August and September, 1922, a given unit of farm products could be exchanged for only about two-thirds (64 per cent) as much of other commodities as that same unit would have purchased in the year 1913. At the time this PRICES OF FARM PRODUCTS AND FREIGHT RATES, 1909–1922.

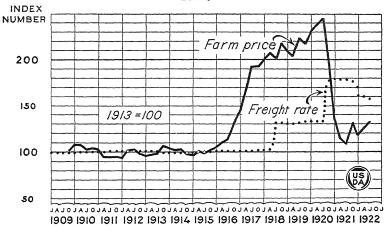


Fig 1.—There is a considerable variation from year to year between the levels of prices of farm products and of freight rates. During the war period farm prices advanced much more rapidly than freight rates. Since 1920 prices have declined while the freight rates have advanced. During 1921 and 1922 freight rates were relatively higher than prices of 31 farm products

report is submitted an encouraging advance in farm prices is being registered and the future looks decidedly more hopeful.

Low Prices for Farm Products—High Prices for Other Commodities.

Among the causes which contribute to the abnormal relationship of farm prices to the prices of other things may be mentioned:

Overproduction of many farm crops.

Continued high freight rates.

The maintenance of industrial wages at near war-time levels.

Economic depression and depreciated currency in European countries.

Interference with the efficient functioning of necessary industries.

Unreasonably high costs of distribution of some farm products.

Some contend that there is no such thing as overproduction of farm products and can not be as long as there are people in the world who suffer for food and clothing. the same line of reasoning it can be argued that the production of automobiles will be inadequate until every man and woman and every boy and girl of high-school age owns There is overproduction, so far as the producer is concerned, whenever the quantity produced can not be marketed at a price which will cover all production costs and leave the producer enough to tempt him to continue production. And whenever there is such overproduction the output will be reduced either by conscious effort on the part of the producers or by the operation of economic laws which drive the less efficient producers out of the business. fact is that for three years in succession the farmers of the United States have produced more of some crops than could be sold at prices high enough to cover production costs.

It will never be possible for the farmers to relate their production to profitable demand with the nicety of the manufacturer, both because they can not control the elements which influence production and can not estimate demand as closely. Neither will the farmers ever be able to organize as have the labor unions, and by rules and regulations and disciplinary measures compel obedience to policies adopted. They can, however, bring about a better adjustment of production, and especially of marketing, to the needs and purchasing ability of possible customers, if they will perfect their organizations and call to their aid men skilled in interpreting conditions which influence supply and demand. Better adjustment of farm production is worth striving for. Both the farmers and the consuming public would be benefited through more stable production and therefore more stable prices.

There were substantial reductions in freight rates on farm products during the year, but rates still remain far above pre-war levels and constitute a heavy burden on agriculture. In the case of some crops grown at considerable distance from the large consuming centers freight rates

are now prohibitive or so nearly so as to make crop readjustments imperative. If this condition should continue, industrial readjustments must follow, our manufacturing centers gradually being shifted westward toward the great agricultural surplus-producing regions. In the case of some crops, notably fruits and vegetables, the higher freight rates tend to benefit eastern farmers at the expense of western and southern. In the case of the coarse grains and hay, however, the finished product of the western farmer is to some extent the raw material of the eastern farmer and the advance in freight rates hurts both.

The cost of labor is one of the largest elements which determine the price the farmer must pay for what he buys,

WAGES OF FARM HANDS, CARPENTERS. AND METAL WORKERS.

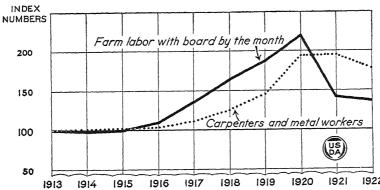


Fig. 2 — Wages of farm labor rose more rapidly during the period 1917-1920 than did the wages of carpenters and metal workers and fell more rapidly during the agricultural depression of 1920-21. In periods of prosperity and depression farm wages are more quickly adjusted to prevailing economic conditions than are union wages.

whether it be transportation, fuel, implements and machinery, clothing, or what not. The success of industrial labor in holding most of the gains in wages secured during the war period and the two years following accounts for a considerable part of the higher prices the farmer is now paying for what he buys. Wages of men working in organized industries, including transportation, remain at 50 to 100 per cent above pre-war levels and are perhaps within 10 per cent of the high level of 1920. These wages are carried into the price of the things produced. The farmer's income on the other hand is down to or below the pre-war level. The farmer benefits when there is full employment for 1 and 1

when wages are good, because the wage workers can then buy freely of farm products. There is a limit, however, beyond which consumption is not increased, and as wages advance beyond this point they add to the cost of the things the farmer must buy and thus increase his own cost of production without in any way enlarging the market for what he produces.

The depreciation in the currency of European countries and the general economic depression existing there tends to narrow the outlet for our surplus crops. During 1921 we exported large quantities of agricultural products, especially those products which were selling at ruinously low prices. This export movement has been decreasing. European agriculture is gradually being restored and necessity requires restricted buying by the consuming public. other phase of this export movement is the postponement of European buying. In times past the tendency was to come into our markets promptly and lay up farm products in store. Now the tendency overseas is to use up all available domestic supplies and import as little as possible. requires us to hold our own exportable crops longer than before and adds to our credit and storage difficulties. The condition of our agriculture would seem to justify a thorough study of the international situation as it bears upon the outlet for the products of our farms.

Conflicts between employers and employed in necessary industries directly injure the farmer in many ways. When men are out of work food consumption is necessarily reduced, notwithstanding strike benefits paid. When the dispute affects transportation, the movement of farm products is seriously interfered with. During the recent railroad strike, for example, many fruit and truck farmers were unable to move their perishable products, and as a consequence suffered very heavy losses, running into many millions of dollars. Delays in transportation cause heavy shrinkage in live stock moving to market, as well as damage to many other farm products resulting from deterioration because of delayed As a result consumers in the cities are commovement. pelled to pay unreasonably high prices, while producers on the farms must take lower prices. The effect of the transportation strike will injuriously affect the farmers long after the men are back to work, because of the impaired condition

of the equipment. So also farmers suffered severely from the coal strike. In many sections threshing was delayed, at heavy loss, through exposure of the grain to the weather. Farmers were compelled to pay exorbitant prices for such coal as they were able to buy, and the necessity of moving coal when finally the mines and the railroads resumed operations interfered materially with the prompt movement of farm products.

Cost of distribution of farm products remains high, notwithstanding frequent violent denunciations of profiteers in the cities. In part, this high cost of distribution is caused by the multiplication of distributing agencies during the past six years, in part by the increase in rent, wrapping paper and containers, twine, ice, etc., but in larger part by the higher

TAXES, PERCENTAGE OF FARMERS' NET RECEIPTS.

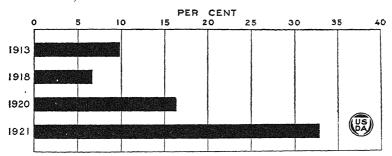


Fig. 3.—During 1913 taxes were about one-tenth of the farm receipts less expenses other than taxes and in 1921 were about one-third. Taxes, unlike farm prices, did not respond to the liquidation that took place following 1920. (155 farms in Ohio, Indiana, and Wisconsiń.)

wages which employees in the distributing business have been able to maintain.

Although not directly affecting the price of farm products, the tremendous increase in taxes has added a burden which is very heavy to carry. In most farming States taxes on farms have more than doubled. On 155 farms in Ohio, Indiana, and Wisconsin in 1913 the income available for the owner's labor, profit, interest on capital, and taxes—that is, receipts less expenses other than taxes—averaged \$1,147 per farm. Taxes averaged \$112 per farm, which amounted to 9.8 per cent of the foregoing income figure. On these same farms in 1921 the estimated income available for labor, profit, interest on capital, and taxes averaged \$771 per farm. The taxes in this year were \$253 per farm. Taxes, in other

words, absorbed one-third of the farm income in 1921, as compared with less than one-tenth in 1913. Between 80 and 90 per cent (the percentage varying in different sections) of the taxes paid by the farmer is for expense within the county, the larger items being schools and roads. Such taxes, therefore, are within the control of the majority of the people in the county. Nevertheless, the increase in taxes is proving to be one of the most frequent subjects of complaint by farmers, as answers to a questionnaire sent out by this department showed very clearly, and during the next few years the whole question of taxation will evidently receive considerable attention by thoughtful farmers.

How the Farmers are Weathering the Storm.

The production records of this year furnish a vivid illustration of the vitality of American agriculture and of the courage and hopefulness of the American farmer. Certainly no other industry could have taken the losses agriculture has taken and maintain production, and we have no evidence to show that any other group of workers would have taken the reduction in wages in the spirit in which the farmers have taken their reduction.

Many thousands of farmers have not been able to weather the storm, notwithstanding their most strenuous efforts. Thousands who purchased land during the period of high prices, making a small payment down, have been obliged to give up the struggle, let the land go back, lose all the money they paid for it, and start anew. Many thousands of renters who had substantial savings invested in farm equipment and live stock have gone through the same experience and have lost everything. A pathetic picture which illustrates this comes in a letter from a farmer in a western State. He writes:

"Our neighbor joining on us on the east, a hard-working man, had rented 320 acres of land. He and his wife and one hired man farmed it. They had about 100 head of cattle and about the same number of hogs. The 1st of December they turned everything over to the landlord, save one team, which they hitched to an old wagon, put in their household goods, got in the wagon themselves, and drove away to town to get work at day labor and make a new start in life."

Most farmers have succeeded in maintaining themselves and their hold on the land by the exercise of the most rigid economy. They have refrained from buying anything they could possibly get along without. This enforced economy has contributed very much to the difficulties of manufacturers, dealers, and retailers, who are largely dependent upon farmers for their customers. Manufacturers of farm implements and machinery especially have suffered, farm purchases of such having decreased enormously since the summer of 1920. The result of this has been a steady depreciation in farm equipment.

Labor cost of production has been greatly reduced, both by lower wages paid farm hands and the reduction in the amount of labor employed. In the case of farm wages, in 1922 they were but 36 per cent above the 1913 level, having declined 38 per cent of the high level of 1920. Perhaps the larger reduction in labor cost of production, however, has come through longer hours and harder work by the farmer, the farmer's wife, and the farmer's children. To some extent the work of the children has been at the expense of their education, a matter in which the entire Nation may well feel concerned.

In addition to rigid economy in the purchase of such things as implements, machinery, and in the making of needed improvements, apparently there has been a much to be regretted reduction in the farmer's standard of living. It is not possible to measure this with any degree of accuracy, but our reports show that for the year ending August 1, 1922, there were slaughtered on the farms 10 per cent fewer hogs than in the year 1921 and 20 per cent fewer than in the year 1920.

With a view to reducing market costs there has been a very large increase in the number of cooperative marketing associations, large and small. Such associations, when well conducted, effect considerable savings in marketing costs. In addition, they are decidedly helpful in indirect ways, such, for example, as directing attention to the grading of farm products and prices as influenced by grades, to the need of regulating the amount marketed to what the demands of the consumers will absorb at a fair price, and in general to the economics of agriculture. Soundly organized

cooperative associations are now able to command the credit needed to enable them to market crops in a more orderly fashion. As sound principles of cooperative marketing become better understood and applied, the benefit growing out of such associations will correspondingly increase. The department is gathering information on successful cooperative methods at home and abroad.

The need of better quality in both crops and live stock is more and more coming to be realized. This is indicated by the increase in the number of pure-bred sires and the organized movement in many sections of the country to replace inferior stock with better.

Hopeful Aspects.

Notwithstanding the continued low purchasing power of farm products, it is fair to say in a general the farmers of the United States are in a better position financially now than they were a year or 18 months ago. Farm products are selling at considerably higher prices, and it is estimated that the aggregate value of the crops in the country this year is about a billion and a quarter dollars more than last year. Considerable quantities of these crops will be fed and the increased value will not be wholly recovered to the farmer, but the bare fact that such a large increase in money will reach the farmers' pockets this year is most gratifying and reassuring.

The advance in price of cottor, has been most helpful throughout the cotton-producing. While the crop is short in many areas, the cotton growing country as a whole is probably in better condition financially than it has been for three years.

Considerably higher prices for wool, lambs, and sheep have resulted in pulling the sheep industry out of a slough of despond and setting it on its feet again. This is especially helpful to the industry in the range country.

Right through the period of ression hogs have been selling at considerably higher prices relatively than corn. This has enabled farmers in the great corn-producing States to secure much higher prices for their corn by feeding hogs than they could get by selling it as corn. Thirty if

to forty per cent of our corn crop is fed to hogs. Hog prices continue relatively higher than corn. This is stimulating hog production, and there is danger that it may be overdone another year.

On the whole it has been a fairly satisfactory year for cattle feeders, the prices for fat cattle holding gratifying levels. Growers of cattle in the range country, and especially those who have marketed inferior grades of cattle, have not been so fortunate.

Credit conditions have vastly improved. Interest rates have fallen as compared with a year and 18 months ago. The banks in the agricultural sections are in far better condition to serve their farmer customers, and there seems reason to believe that this condition will continue to improve.

The greatly accelerated movement of farmers, and especially farmers' sons f 'the farms to the cities and industrial centers is one or the hopeful signs. It is not possible to measure this movement with absolute accuracy, but our best estimates indicate that during the months of July, August, and September twice as many persons left the farms for the cities as normally. This movement is in direct response to the willingness of the buying public to pay much higher prices for labor in the building trades, manufactures, and industries than for labor on the farm. When fair relationships between agricultural and other prices are restored and the capable worker can market his labor on the farm. whether by working for himself or for another farmer at wages which will re favorably, all things considered, with the was 'e to get in the city, the movement will again become normal.

Another hopeful sign is the increasing willingness and desire of people engaged in industry, commerce, and finance to help bring about a more favorable adjustment for the farmer. Such people are coming to realize more and more the menace to themselves in conditions so unfavorable to agriculture as those of the past three years. Their attitude toward the farmer has anged from that of a benevolent paternalism such as was so much in evidence during the 10 years preceding the war. They now understand more arrly that their own future is inseparably linked up with 35143°—yeb 1922—2*

the farmer, and that in doing what they can to help him get on his feet again they are helping themselves as well.

Helpful Legislation.

In my report of last year I called attention to certain legislation recently enacted by Congress which promised to be helpful in relieving the agricultural depression. promise has been made good. The activities of the War Finance Corporation undoubtedly saved many thousands of farmers from bankruptcy and hundreds of banks in agricultural States from passing into the hands of receivers. The benefit came not alone from the more than \$350,000,000 of new money which was made available for agricultural purposes but from the renewed confidence which was inspired and the good effect upon interest rates charged by banks and other loan agencies. The measures which made possible greatly increased mortgage loans on the part of the farm land banks and joint-stock land banks contributed materially to relieving the financial stress by making it possible for thousands of farmers to refund their obligations and get them on a basis of deferred payments. These measures also were influential in reducing the rate of interest on mortgage loans.

The amendment to the Federal reserve act which provides that in making appointments on the Federal Reserve Board due regard shall be had to securing a fair representation of the agricultural, as well as the financial, industrial, and commercial interests, makes proper provision that the voice of agriculture shall be heard on this powerful credit agency when policies are being considered which may affect agricultural credit or agricultural prices.

The act to encourage the organization of farmers' cooperative marketing associations by giving them proper standing under the law, and thus assuring them from improper prosecution by overzealous officers, has made possible and stimulated greater activity in the organization of such associations.

The packers and stockyards act, which brings all packing houses, stockyards, and stockyard agencies under Government supervision, gives assurance that free, open, and competitive conditions will be maintained in the live-stock mar-

kets, and that farmers and stockmen will be protected against unfair and improper practices, as well as combinations which militate against them. More than this, this act gives opportunity for the first time to make a systematic study of the marketing of live stock from the time it leaves the farm until it reaches the wholesaler of meats in the city. Out of such study there should come in time more efficient methods of marketing, and especially more efficient methods of distribution.

The grain futures act, which extends Government supervision over the grain exchanges on which grain is bought and sold for future delivery, gives a similar opportunity to make a study of the present system of grain marketing. Up to the present time it has not been possible to secure that information, which must be had to form an intelligent idea of the effect of the dealings on these grain exchanges. If the act shall be held to be constitutional by the Supreme Court, that opportunity will be afforded.

The Joint Commission on Agricultural Inquiry, composed of members of the House and Senate, sat for many months during 1921, and the following winter made an extended report of its findings. This report contains a mass of material which will be exceedingly helpful in working out national policies designed to aid agriculture. It is the most comprehensive report on the subject which has ever been prepared.

Congress passed a number of other acts of lesser importance, but all helpful. No Congress in our history gave more extended, sympathetic, and understanding consideration to agriculture than the Congress which convened in March, 1921.

The National Agricultural Conference.

In January, 1922, there was held in Washington a national agricultural conference, called at your request. This conference was attended by 336 delegates. Some 20 different national farm organizations sent delegates, representing all phases of agricultural activity, these delegates numbering 87 and coming from 37 different States. There were individual farmers in attendance to the number of 80, from 30

different States. There were 84 delegates officially connected with agricultural organizations of the different States. There were 67 delegates representing businesses having direct relation to agriculture, and there were 18 women delegates.

Following your splendid opening address, the delegates were assigned to various committees, and spent four days considering matters relating to agriculture. At the conclusion of the session the conference brought in a number of important recommendations, some of them suggesting legislation, some suggesting administrative action, and some suggesting certain matters which should have the attention of farmers and farm organizations. The details of the discussions and the recommendations were presented to you in a special report February 6, 1922. Favorable action has been taken on most of the more important recommendations of the conference. The presence of this large number of practical farmers from almost every State afforded an opportunity for conference between them and the workers of the Department of Agriculture, and this intimate contact with the delegates proved most helpful in stimulating department activities, especially along economic lines. The coming together of men of widely divergent views from so many different sections was most beneficial in every way.

Credit Legislation Needed.

Among the recommendations of the national agricultural conference were two which dealt with the matter of farm credit. One urged the increase of the maximum which may be loaned to an individual by the Federal farm land banks from \$10,000 to \$25,000. The other expressed the need for a better system of credit for production purposes. Neither of these recommendations have been acted upon as yet, although the need of favorable action is urgent.

In the more highly productive agricultural regions the amount required to be invested in the average-sized farm which is the most economical unit for the average farm family is so great that a mortgage loan limited to \$10,000 is not large enough to meet the needs of the average farm owner. Many farmers are therefore deprived of the benefit of the Federal farm land bank system and just at a time

when they most need it. This limit should by all means be increased to \$25,000 as quickly as possible.

Short-time or working credit used by the farmer comes from two sources—the commercial banks and the merchants. the latter also necessarily being carried by the banks. The trouble with this short-time farm credit is that very often the notes given run for a shorter time than the farmer needs the money, and therefore must be renewed, and often the rates are higher than farm profits justify the farmer in paying. Our short-time credit system has been devised rather to meet the needs of business and commerce, both of which have a shorter turnover than agriculture. When business conditions are normal the farmer has gotten along fairly well. In times of stress the forms of short-time credit upon which he is obliged to rely often force him to sell his crops and live stock at severe sacrifice. There should be made available to agricultural producers a credit system adapted to their particular needs. Particularly there is needed a system of intermediate credit under which the farmer can borrow for periods of six months to three years. This form of credit is needed especially for live-stock production and feeding and for development purposes, such, for example, as the purchase of certain kinds of machinery, the building of silos and barns, the fencing and draining of land, etc. The need for credit of this sort has been recognized for a great many years. The lack of it made necessary the activities of the War Finance Corporation during the past year. Agriculture should not be required to depend on emergency organizations of this sort.

Congress has been giving consideration to this matter of intermediate credit. A number of bills have been before the appropriate committees for some months. It is very much to be desired that definite action be taken at the earliest possible moment.

Commodity and Regional Councils.

With the desire to be of the greatest possible service in the task of restoring agriculture to a prosperous basis we have been making comprehensive studies of the conditions which influence the profitable production of various crops, carrying on these studies through what we call commodity

councils. These councils are composed of representatives of the various bureaus and suborganizations of the department which have anything to do with the crop being studied. The cotton council will serve as an illustration. Meetings of this council are attended by the people who understand the soils of the Cotton Belt, by those who have made a special study of varieties as adapted to certain soils, by the experts in cultural methods, by the entomologists who understand injurious insects, their habits and methods of combating them, by specialists who understand grading and marketing methods and the conditions which influence demand, both at home and abroad, and by many others who have information needed to help bring about the most economical production and marketing of cotton. It is expected that out of these deliberations by the cotton council will come certain definite department policies with regard to cotton. When such policies have been formulated it is expected that meetings will be held with agricultural agencies and cotton farmers in the various cotton-producing sections. These meetings should result in formulating policies best adapted to the profitable production and marketing of cotton in the various sections, and the various agencies interested will then undertake to bring these policies to the attention of cotton growers through the cooperative extension agencies of the department and the various States. The same general policy will be followed with regard to all the principal crops.

Out of the deliberations of these councils which deal with particular crops it is expected there will grow regional councils which will consider in the same thorough and comprehensive way the agriculture of important regions of the country. For example, in the spring-wheat region of the Northwest there are certain large agricultural problems peculiar to that region. The same is true of the winter-wheat region of the Southwest and Central West and of the Corn Belt region. The problems to be studied are not limited to the growing of particular crops, but embrace the marketing of those crops, the interchange of crops and commodities, and the relations between the agriculture and the industries of the various regions.

It seems perfectly clear that developments of the past five years, the important changes in freight rates on agricultural and industrial commodities, and the uncertainties of the foreign market will make necessary important readjustments in agricultural production and marketing. Through such studies as are being made in these commodity councils it is the hope of the Department of Agriculture to be helpful in making such readjustments.

Economic Research Work.

On July 1, 1922, the consolidation of the branches of the department doing economic research work was completed, the new bureau being known as the Bureau of Agricultural Economics. Included in this bureau are the former Bureau of Markets, the Bureau of Crop Estimates, and the Office of Farm Management and Farm Economics. The merging of these three units into one had been anticipated by an informal reorganization of their work. It is now possible to make a comprehensive study of economic questions involved in production, marketing, and distribution of farm products, following every step of these processes. This is necessary to secure for farmers the information needed to put American agriculture upon a permanently productive and profitable basis. Studies are under way which will cover every process through which the more important products of agriculture pass on the way from the farm to the consumer.

An intensive study is being made of the part distributors play in financing the production of fruits and vegetables, and the effect on production, distribution, and price. Also, studies are being made of the organized fruit-auction companies in the larger city markets. It is estimated that these companies handle about \$150,000,000 worth of fruit each year, but little is known of them and their manner of doing business. Studies are being also made to secure detailed information on such matters as production, supply, distribution, and consumption of fruit and truck crops.

Marketing of Live Stock and Meats.

Through cooperation with the buying and selling agencies at the Chicago market, live-stock marketing information is being gathered to show the State origin, number, and average weight of each grade of beef steers received, together with the average price paid and the final disposition. This information makes it possible to determine the seasonal supply of the various grades of steers arriving at Chicago and the number going to the country for further feeding or grazing. Information is also being gathered to ascertain the percentage of each market class of sheep and lambs in the total receipts at Chicago, and the average weight and price of these classes. Information of this sort is necessary as a basis for enabling producers and feeders both to plan their operations and to regulate the marketing of their stock, and becomes more and more valuable as it accumulates.

Competition and Demand in Foreign Countries.

As long as we export considerable quantities of wheat, cotton, pork, and other farm products, it is important that we be informed as to competition to be met in foreign markets and as to conditions which influence demand and price. During the past year the department has had representatives in Argentina and in the Balkan countries, both of which compete with us to some extent, and in England and some of the other countries which buy from us. In addition to maintaining these representatives, two specialists were sent to Europe to make an economic survey of agricultural reconstruction there and to arrange for the interchange of information as to production and demand in those countries.

Crop and Live-Stock Reporting Service.

Plans have been made to greatly improve and broaden the statistical work of the department, especially as it relates to crop and live-stock production. A committee of experienced statisticians of national standing was called in and asked to consider carefully our statistical methods and make recommendations. This committee spent some time here and made recommendations of value, which are being adopted as rapidly as possible.

For many years the department's statistics on acreage and production of the principal farm crops have been regarded as very accurate. Livo-stock statistics have not been so satisfactory, due in large part to inadequate funds. Con-

gress gave larger appropriations for the current year, and in cooperation with leading live-stock producers a program has been worked out which should result in much more reliable and complete live-stock statistics in the future. This program provides for the elaboration of the annual estimates of numbers of live stock on farms to show age and sex; preliminary and final estimates yearly of the calf and lamb crops of the range States; periodical estimates of the supply and probable movement of feeder cattle, sheep. and lambs in the range States; periodical reports of the numbers of cattle, sheep, and lambs on feed for market: periodical surveys of special live-stock producing areas; reports of the seasonal movement of cattle, sheep, and lambs from the range to the feed lots and from feed lots to market; semiannual reports of the spring and fall pig crop, gathered through rural mail carriers and field representatives of the department; monthly reports of feed and pasture conditions. The Postmaster General has taken a personal interest in the success of these pig surveys made through the cooperation of his department, and they have been quite successful. information with regard to the production and potential supply of hogs is very valuable, affecting as it does the market for and price of corn as well.

Cost of Marketing.

Cost studies in the field of marketing have been pursued in an effort to get at the actual costs of marketing farm crops by various methods. The services performed and their cost by each of the agencies in the marketing process are being studied. Particular attention during the past year has been given to the cost of marketing live stock in the Corn Belt States, the information in all cases having been secured from accounting records. Reports of these studies will be made public as they are completed.

Grades and Standards for Farm Products.

The necessity for establishing grades and standards for farm products of all kinds becomes increasingly evident. Clearly defined and generally accepted grades not only prevent innumerable irritations, annoyances, and abuses but help the farmer produce to better purpose and with fuller

understanding of market needs. In the case of many farm products acceptable and fairly well understood grades already have been established, such, for example, as the grain and cotton grades. For some time studies have been in progress with the hope of perfecting market classes and grades for live stock and dressed meats. This work has been carried on in connection with the market-reporting service, the tentative grades being used as the basis for the market reports. Numerous conferences have been held with producers and members of the trade, and recommendations and suggestions have been invited, so that when standards are adopted they will be suited to trade conditions. Illustrated bulletins describing the various classes and grades and defining terms are now in course of preparation. Manuscript for a bulletin on "Market Classes and Grades of Dressed Beef" is in the hands of the printer. Similar bulletins will be submitted soon dealing with grades of cattle, hogs, veal, lamb and mutton, and pork carcasses, and cuts and miscellaneous meat products.

The standards for grade and color of American Upland cotton and for American-Egyptian cotton were revised during the year and a change was made in the grade names by the introduction of the numerical system to supplement the present grade names. The revised standards will become effective on August 1, 1923.

Much progress was made during the year in the wool standardization work. More than 500 sets of the tentative wool grades have been prepared and distributed among wool manufacturers, dealers, growers, agricultural colleges, and others interested, every State being represented. In this way interested people are able to study the grades until they come to know them.

Up to the present time grades have been formulated and recommended for 14 of the more important fruits and vegetables. These grades have been brought to the attention of growers and dealers through demonstration work done in cooperation with State representatives and with organizations of growers. Assistance also is given to States in preparing and revising grades for a large number of products.

Tentative standards have been prepared for eggs, and attention is being given to the preparation of standards for live and dressed poultry.

Tentative hay grades have been formulated for timothy, clover, timothy and clover mixed, mixed grass and timothy, and grass mixed hay. A complete exhibit of these grades has been prepared for display at conferences, conventions, terminal markets, and elsewhere. Also a bulletin on the subject "Laboratory Methods in Hay Standardization" is being prepared for early publication.

Revision of Grain Standards.

Complaint of the wheat grades, especially in the Northwest, led to a very thorough study of these grades during the summer and fall of 1921. Experts not connected with the department were employed to make a full investigation in the field. Many conferences were held with the trade and inspection departments, as well as with producers. result of these investigations some slight changes were made in the wheat and corn grades, and important changes were made in the rules governing inspection performed by licensed inspectors. In the hope of being of further assistance to the wheat interests in the Northwest, a price-reporting system designed to furnish producers and dealers with comprehensive information regarding market conditions and prices at the terminals was inaugurated. In addition to this, an extensive "Know-your-own-wheat" campaign is being conducted in cooperation with the extension directors and other agencies in the States of Minnesota, North Dakota, and South Dakota. This program should aid producers to know the quality and value of their wheat and enable them to market it to the best advantage. The ruling thought is that every effort should be made to secure conditions under which the actual milling values of the wheat will be reflected in the prices received by growers. At the end of the present wheat-marketing season we should be able to appraise fairly well the value of the changes in the inspection rules and regulations and of the educational campaign.

Shipping-Point Inspection.

The demand for Federal inspection of farm products at points of shipment becomes more insistent. Applications for such inspection already have been received from at least

20 States. The department has found it possible to render some service at shipping points, largely in cooperation with the various States, but it is quite impossible to comply with requests for such inspection until an additional appropriation becomes available. As most of the cost of this service is defraved from fees collected, there seems no good reason why ample appropriations should not be made. In the case of inspection at receiving points, for example, which has been longer established, the department turned into the Treasury during the past year fees to the amount of \$128,000. The total appropriation for this inspection is \$175,000. It is expected that both receiving-point and shipping-point inspection service will be largely self-supporting through the fees received, but as these fees go direct to the Treasurv. appropriations must be made to the department. Such inspection is of great value to both producers and consumers.

Market News Service.

Some extensions of the market news service have been made through cooperative agreements with the States, whereby the latter pay the expenses involved. Insistent demands have come for a considerable extension of this service, but have been denied because of lack of funds. It has been possible, however, to disseminate market information much

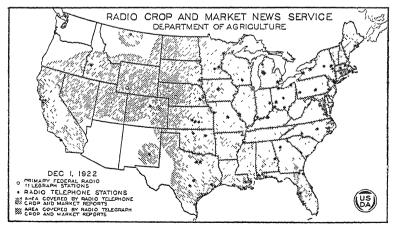


Fig. 4.—The official market reports of the department are broadcast by radio telegraph from nine Navy and Air Mail Radio stations to be received and rebroadcast by radio telephone broadcasting stations. In addition, 85 radiotelephone stations are broadcasting market reports which they receive direct from the department's market-reporting branch offices.

more widely than heretofore through the use of the radio stations of the Post Office and Navy Departments. At designated hours each day market reports are furnished to radio stations at Washington, Omaha, North Platte, Nebr.; Rock Springs, Wyo.; Elko and Reno, Nev.; Arlington, Va.; and Great Lakes, Ill., and also to 53 stations operated by State agricultural colleges and other broadcasting agencies. As a means of getting market information to the country the radio is growing to be quite popular. This sort of service is still in an experimental stage, but gives promise of great future development and usefulness.

Increased Activity Under the Grain Standards Act.

The volume of business handled by the offices of Federal grain supervision during the past year surpassed by far

that handled in any previous year. This is especially true of appeals from inspections originally made by licensed inspectors. During the year 31,689 appeals, or approximately three times as many as the preceding year, were handled by the department. In addition to the handling of appeals on complaint of parties to commercial transactions, supervisors work in close contact with licensed inspectors, aiding them in inspection problems, and in applying the standards.



RECEIVING MARKET REPORTS BY MAIL.

Fig. 5—The daily market reports of the department are distributed as bulletins from market-reporting offices in the large market centers and in the principal producing sections.

A total of 175,896 supervision samples were handled during the year to check the work of the inspectors in order to secure correct and uniform application of the Federal stand-

The large and steady increase in demand for appeal service, as well as the desired supervision of inspections not made the subject of appeal but to secure correct and uniform application of the standards, has taxed to the utmost the personnel in some of the offices in the larger markets. This situation had become so serious by the close of the past fiscal vear that it was found impossible to handle the volume of work, which by its very nature must be promptly and efficiently executed, on the available funds. To avoid a breaking down of the efficient organization which has been perfected, the only alternative was to contract the service by closing field offices. Although serious protest was made by trade organizations and individuals, it has been found necessary to close four of the branch offices.

Administration of the United States Warehouse Act.

During the past year there has been an unprecedented increase in the number of applications received from warehousemen who operate on a large scale for licenses under the United States warehouse act. At the beginning of the past fiscal year there were licensed 238 cotton warehouses,

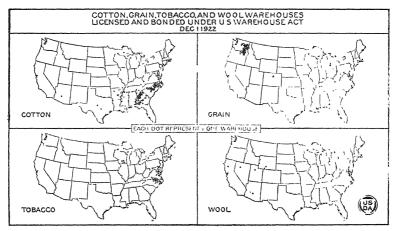


Fig. 6.—Storage or warehousing of products is essential to orderly marketing. But while the goods are in storage most farmers must be financed. warehouse receipt issued under the United States warehouse act is one of the best forms of collateral for credit purposes. On December 1, 1922, there were over 400 warehouses licensed under this statute. The above map shows their distribution.

having a combined capacity of approximately 430,000 bales. By the close of the year this number had increased to 268 warehouses, having a combined capacity of 1,210,000 bales. The number of grain warehouses licensed under the act increased from 56, having a capacity of about 2,110,000 bushels, to 263, having a capacity of about 14,441,000 bushels. The number of wool warehouses licensed under the act increased from 5, with a combined capacity of 24,375,000 pounds, to 18, with capacity of about 27,500,000 pounds. During the year 14 warehouses controlling space to accommodate 68,395,000 pounds of tobacco were also licensed. Prior to the year 1922 no tobacco warehouses were licensed under the act. A marked interest developed also among warehousemen in sections in which no interest had been shown prior to this year.

Three important factors have contributed to the substantial progress made along this line during the past year: First, the more general appreciation on the part of bankers of the value of warehouse receipts issued under the act for collateral purposes; second, the insistence on the part of some of the farmers' cooperative associations that their products should be stored only with warehousemen who were federally licensed; and, third, the recognition accorded the federally license warehouse receipt by the War Finance Corporation.

Scientific Research.

Department workers in the field of research have been diligent during the year. Notes on work completed and progress made will be found in the reports of the various bureaus, which are being printed as separate documents, and in the various bulletins which have been issued during the year. A list of these bulletins is appended to this report. In view of economic conditions, especial interest attaches to investigations which may help in reducing the cost of production, such, for example, as improvement in varieties of plants and animals, more economical cultural methods, more complete control over plant and animal diseases and insect pests which lessen returns. However unfavorable conditions may be, a lowering of the cost of production must benefit the producer.

The extensive work in testing the relative value of buds from exceptionally productive trees as compared with non-productive ones seems to show a remarkable difference in the productivity of the resultant stock. Already this has been carried far enough with certain of the citrus fruits to impress the industry with its commercial importance. It is believed that the same principles will be applicable to many other varieties of fruits.

Continued studies of the effect of the length of day upon crop growth are yielding good results and promise to be helpful in considering varieties of plants to be used in breeding work for different regions.

Great progress has been made in recent years in solving the problem of the cause and control of many formerly obscure plant ailments, commonly spoken of as physiological diseases—such, for example, as the mosaic disease of sugar cane, corn, cucumbers, potatoes, and many other of the cultivated crops. Some of the diseases of potatoes and beets apparently belong in this same category. It is being found that these are infectious diseases which may be transmitted by different insects. Each new discovery in this most interesting field brings nearer the possibility of controlling or eliminating these troubles, or of developing varieties and strains which may be resistant to them. Much of the failure in controlling some diseases is now known to be due to failure to recognize the fact that plants might be infected and capable of transmitting the disease without showing external symptoms. These researches have resulted in throwing much light on a field in which scientific workers previously have been almost helpless.

Barberry Eradication.

Efforts to wipe out some plant diseases by exterminating the intermediate host are encouraging. The warfare against the black-stem rust of wheat in the Northwest and against the white-pine blister rust in the forests are cases in point. The part played by the barberry in the transmission of the wheat-stem rust is now generally recognized, and scientists, extension workers, farmers, and people and communities interested in the wheat trade are cooperating in an extensive campaign to eradicate the barberry. The first annual appro-

priation (\$150,000) for barberry eradication became available on July 1, 1918. This was increased to \$350,000 on July 1, 1922. During the first two years of the campaign most of the effort was spent in getting bushes out of the cities, towns, and villages, on the supposition that the greater number of barberry bushes were located there, and also because they could be most easily and cheaply reached. In a farm-to-farm survey, which has been in steady progress during the last three summer seasons, 447 counties have been covered by squads of field men. It is estimated that it will be necessary to survey about 800 counties in all. More than

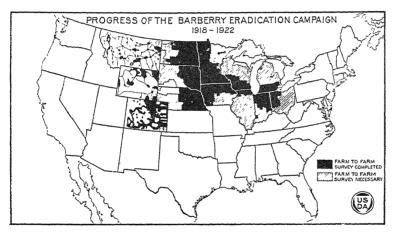


Fig. 7 —Thirteen States are included in the barberry eradication area. In these States 472 counties have been covered by the farm-to-farm survey, and 394 counties remain to be surveyed.

five and one-half million barberry bushes have been found and destroyed. The magnitude of the task has grown as we got into it. Barberry bushes are found growing wild here and there, and especially in the timbered portions of the States bordering on the Mississippi River. The complete eradication of the bushes when they are found is more difficult than had been supposed. If portions of the roots are left in the soil sprouts may develop under favorable conditions. This makes resurveys necessary and adds much to the duration and expense of the campaign. Many bushes are found in broken or rocky ground where it is impossible to remove the roots. Experiments in the use of chemicals as destructive agents are being made and seem to offer prom-

ise. With continued appropriations and cooperation on the part of interested parties, it is believed that the campaign

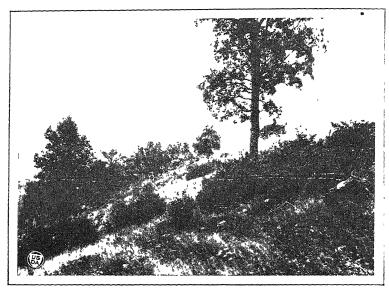


Fig. 8.—Woodland pasture with clumps of escaped common barberly bushes under trees where birds have dropped the seeds. These bushes in turn produce more seeds to start more bushes which spread farther the red rust of wheat. There are millions of such escaped bushes in the timbered portions of the North-Central States.

against the barberry can be rapidly carried to a successful conclusion.

White-Pine Blister Rust.

The white-pine blister rust, which has been destructive in some of the New England forests and has been mentioned in previous reports, has been found at points in the north-western forests. A quarantine was promptly established, and by the vigorous application of methods of control which have worked successfully in the New England forests it is hoped to promptly check the spread of the disease. This disease is spread somewhat after the manner of the rust of wheat, the intermediate hosts being currant and gooseberry bushes.

Predatory Animals and Rodent Pests.

Similar to the warfare against plant and animal diseases and insect pests is the struggle to control or eradicate predatory animals and rodent pests. The annual loss to agriculture from injurious rodents has been estimated to exceed \$500,000,000. This has been materially reduced through the campaigns led by the scientists of the department, which have destroyed most of the rodents on almost 100,000,000 acres of public and private land. The destruction of predatory animals which cause losses of many millions each year is progressing satisfactorily.

Eradication of Tuberculosis.

Gratifying progress has been made in the campaign for the eradication of tuberculosis. All of the States are cooperating in this movement, and at the close of the year 16,216 herds had been accredited and over 100,000 additional herds had passed a first test without reactors. This widespread demonstration of the possibility of freeing individual herds from the disease has resulted in increased confidence in the area clean-up method. Already 23 States have joined in this movement. In these States more than 150 counties had completed or were in the process of testing all of their cattle and nearly 300 more were making arrangements to begin the work. Compared with the previous year, area test-

PROGRESS OF TUBERCULIN TESTING WORK, 1917-1922.

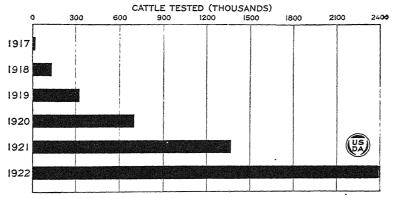


Fig. '9.—In connection with the growth of cooperative tuberculosis eradication work, it will be noted that the number of cattle tuberculin tested has practically doubled each year. There are approximately 300,000 herds containing 3,500,000 cattle under supervision for the eradication of tuberculosis; 21,000 of these herds containing 460,000 cattle are fully accredited and 235,000 herds containing 2,150,000 cattle have passed one successful tuberculin test. There are about 73,000 herds containing 810,000 cattle awaiting the first test.

ing has shown more than a tenfold increase. The adoption of the area clean-up method has not only reduced the expense and increased the efficiency of the work but the results already obtained have done much to strengthen the belief that bovine tuberculosis can be entirely eradicated. Conclusive evidence is already at hand showing that tuberculosis in swine arises principally from infected cattle and that its elimination from the cattle on a given premises results in its gradual reduction in the hogs. Extensive surveys show that tuberculosis is only present in about 1 per cent of the cattle in 42 per cent of the areas of the United States and that in a large additional area it does not exceed 3 per cent. The remaining area is much more seriously affected, but the evidence at hand indicates that this costly disease will finally yield to the scientific methods now being employed.

The Graduate School.

The school designed to provide graduate training for scientific workers which was started in the department last year has already demonstrated its usefulness in increasing the efficiency of the scientific work. Also it has stimulated the younger of the scientific staff to increased effort to obtain adequate training. An increasing number of our scientists are taking leave of absence or arranging for part-time employment to enroll in the standard graduate schools.

This graduate school has been a factor which has made it easier for the department to enlist the interest of the better class of graduates of our scientific and agricultural institutions. Many of these are now looking forward to employment in the Department of Agriculture. The value of the work of the department and its capacity for service to the Nation will necessarily be determined by its ability to enlist trained men of the best sort. The experience so far indicates that the graduate school will be helpful in this direction.

Increased Salary Standard.

The Department of Agriculture has suffered for years under the limitation of the amount which could be paid to scientific workers. In the appropriation bill which was passed last spring Congress increased the scientific salary standard. The result has been decidedly helpful and has

tended to check the depletion of the department's scientific force. The maximum salary now fixed is still inadequate to enable the department to meet the competition from other scientific institutions and commercial organizations, but it is a decided improvement over previous conditions in this respect.

Not a large number of promotions have been made under the permission given, but the knowledge that the opportunity for promotion is always open, combined with the opportunity for advanced training afforded by the graduate school, has contributed greatly toward raising the morale of the department workers as a whole and has resulted in a marked increase in efficiency.

The War Against Insect Pests.

The warfare against insect pests grows in intensity. These pests are multiplying and doing increasing damage. Details of the campaigns of the past year will be found in the reports of the Bureau of Entomology and the Federal Horticultural Board.

The cotton-boll weevil is now found in all the cottongrowing States. During the past year it has caused unusual damage and brought about great loss to the cotton growers. There is some impatience that our scientists have not been able to bring it under complete control. This failure has not been due to lack of effort by the department. The campaign against this pest has been waged with unremitting vigor and each year some gains are made, notwithstanding the increased damage which is being done. The results of the limearsenate dust treatment give increasing assurance that where this method of control is properly applied it will be found most helpful. The method is still expensive, however, and we have not yet been able to reduce the cost to the point where it can be profitably used on land which grows less than onehalf bale of cotton per acre. During the summer experiments made in cooperation with the Air Service of the War Department give hope that the use of airplanes for the distribution of poisons may not only reduce the cost but extend the use of such poisons generally in the communities.

The fight against the pink bollworm, which is regarded as an even more serious pest than the boll weevil, has given us

great encouragement. This pest had gained limited foothold in Texas, Louisiana, and New Mexico. As a result of a conference of representatives from the Cotton States, held in the early summer of 1921, changes in State laws were made which permitted more complete cooperation between the department and the States. With this enlarged authority our operations in Texas have been highly successful. The two worst infested areas in that State have been cleaned up. New outbreaks which appeared in two Texas counties in 1921 were attacked vigorously, and up to 1922 recurrences of the pink bollworm have been determined in but three fields, these being on the Rio Grande, in the Great Bend district, where trouble is always to be expected because of its proximity to Mexico. As an illustration of the need of constant watchfulness, an inspector of the department found in the personal baggage of a passenger landing in Baltimore from Brazil last summer some fifty-odd packages of Brazilian cottonseed, all infested with living pink bollworms. The passenger who brought these had intended to take the seed to the cotton section of Mississippi for planting. Had this been done, in all probability the fight against the pink bollworm would have been lost. The fact that there was an inspector at this port at that particular time and that he was zealous in his duties undoubtedly has saved the Cotton States many millions of dollars.

The Japanese beetle, which came to us with a shipment of Japanese iris, has become a serious pest, apparently one of the most dangerous insect introductions made in many years. In the area of original infestation, where the insect has become most abundant, the damage to foliage and fruit is very This original area was quarantined, and this has checked the rapidity of the spread of the insect, but it is extending its operations at the rate of about 5 miles a year, and at any time may make extended jumps. During 1921 in some 200,000 baskets of sweet corn which moved out of the infested district upward of 5,000 beetles were found. The insect may be carried by almost any of the farm, garden, florist, or nursery products, and also is a strong flyer. Hope of eradication was early abandoned, and while the rapidity of its spread can be retarded by efficient quarantine, there seems no question but that in time this pest will spread throughout the United States. Holding it in check by

means of a quarantine is important, in that it gives time to study methods of control, and especially to find and introduce natural enemies upon which we must rely for the most effective control. Large shipments of parasites of this Japanese beetle have been received.

No new outbreak of the corn borer has been reported this year, but it has maintained itself in the previous areas of infestation. A correct estimate of the damage which may be done by this pest can not now be made, but there seems no doubt as to its threatening character. It may prove to be a very serious pest when it reaches the great Corn Belt, and particularly when it gets into the more southern regions of Therefore, quarantine and control measures corn culture. should be used vigorously. A hopeful development has been the discovery in the south of France of what seems to be a rather effective parasite of the corn borer. This parasite has been introduced and established in Massachusetts. Also, judging from laboratory studies, this same parasite will attack the native cornstalk borer in the Carolinas and the sugar-cane borer in Louisiana. Apparently, also, it will destroy the larvæ of the codling moth of the apple. It seems to be a benevolently active parasite, and everything possible is being done to make it at home here and encourage its multiplication.

The Nursery-Stock, Plant, and Seed Quarantine.

For over three years Quarantine 37 has been in force. This quarantine regulates and conditions the entry of foreign plants and seeds for propagation. It has been severely criticized, both by importers and many amateur florists and horticulturists. To give full opportunity for such criticism and for considering it on its merits, I called a conference at Washington in May of 1922. This conference was largely attended by representatives of the various trade associations, horticultural and agricultural societies and associations, both regional and national, and officials of the various State horticultural, agricultural, and quarantine agencies. In addition, there were many individuals interested in horticulture, as well as delegates from England, Holland, Belgium, and France. This conference was helpful in making clear the conditions which led to the establishment and enforcement

of the quarantine, and many who have been very critical found reason to modify their views and their criticism. While from time to time it may be possible to make changes which will render this quarantine less burdensome and annoying, the need for it seems very clear. Most of our damaging insect pests have come with imported foreign plants. Even on the plants which were permitted entry under the quarantine during the last fiscal year there were intercepted about 500 different species of insect pests and also a considerable number of plant diseases.

Proposed Bureau of Home Economics.

In the budget submitted for the coming fiscal year congressional authority is asked to create a bureau of home economics as one of the scientific bureaus of the department. The work in home economics was established in connection with the States Relations Service, and its development has been largely for the purpose of furnishing information and assistance to extension workers. The establishment of a separate bureau of home economics with a technically trained and experienced woman as chief should enable us to extend our work in that field and render better service to the workers in the farm home and rural community. Properly extended, the work in home economics is so broad that it embraces relationships with nearly all the fundamental sciences. For example, different phases of nutrition work are already under consideration in three different bureaus, work with textiles in two bureaus, household equipment in one, household management in another, while work in dietetics, foods, cooking, clothing, and household decoration already is organized in our economics department. With the organization of a bureau of home economics it will not be difficult to bring about coordination and cooperation of the work already being carried on and to begin research in new fields which must be explored scientifically if the department is to render the greatest service to the home maker.

The Forest Problem.

The necessity of working out and applying a comprehensive plan for protecting, regrowing, and utilizing our forests becomes more obvious with each succeeding year. We now consume timber four times as fast as we grow it.

At the present rate of wood consumption we should have about 4 acres of productive forest land per capita, and these acres should grow wood at the rate of about 50 cubic feet per-acre per year to supply a population equal to that shown by the 1920 census. This production of wood can not even be approximated unless we become more skilled in the art of growing and managing forests and of utilizing forest products with economy. This requires cooperation between the Federal Government and various States and the owners of private forest lands. The desire for such cooperation seems to be increasing on the part of all. There was a time when Federal efforts toward developing a constructive forest policy were resented by owners of forest lands. Gradually

FORESTS: ANNUAL GROWTH AND DRAIN.

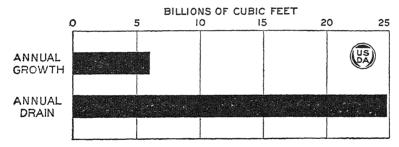


Fig. 10.—The forest problem of the United States can be summed up in the statement that we are growing timber at only one-fourth the rate our remaining forests are disappearing. To make up this deficit of 19 billion cubic feet will require that we grow timber crops with the same skill we now apply to growing farm crops.

that attitude has been changing, and during the past 18 months I have had many evidences of both the willingness and the earnest desire of timber owners to avail themselves of Federal cooperation and technical skill.

Through force of circumstances the main effort of the Department of Agriculture in its dealing with the forest problem has been to manage and protect the great national forests. In my report of last year I dealt somewhat at length with the general policies which have been followed in forest administration. These policies should be extended to cover the whole forest area of the United States, classing as forest area all land more suitable for timber production than for other purposes. The more quickly provision is made for this the better.

Equal in importance to the growing of forests and protecting them is the best possible utilization of the wood. It would be very wise to enlarge the work of the department in the scientific study of wood utilization. The work it has been able to do in its forest-products laboratory in Wisconsin has borne rich fruit and has won grateful acknowledgment from wood users of all kinds. The extension of such work as rapidly as possible will prove highly profitable to the general public. We are finding that the consumption of wood for many purposes can be greatly lessened through a better understanding of how to use it most efficiently, and that much inferior wood can be utilized to good purpose.

The establishment of additional forest experiment stations, especially in the Lake States and in the New England area, is much to be desired. At such stations we are able to make close-at-hand studies of matters affecting forest growth which can not possibly be made so well in any other way.

Forest Legislation Needed.

If it were feasible to enact a law which would provide for the administration of all our forests, National, State, and privately owned, under rules and regulations which would compel intelligent cutting, adequate protection, and economic utilization, that would be the best thing that could be done for the good of all the people. Such legislation does not seem feasible at the present time. It should be possible, however, to enact some legislation which will have the support of the most forward looking people interested in our forests, and I sincerely trust that this may be done soon. Such legislation should provide:

First, for the extension of Federal cooperation with the States in the protection of forests in State or private ownership, making such cooperation contingent upon equal expenditures by the cooperating States and also upon their compliance with adequate standards of protection. The limited cooperation which has been possible under present conditions has been very successful, and I think it is generally agreed by those who are familiar with this matter that larger investments of public funds in cooperation with the States and with private owners would do more to stimu-

late timber growth than anything else that can possibly be done. The annual loss (amounting to about \$16,400,000) from forest fires and the continued unproductivity of much of our land is a shocking waste which should not be tolerated by an intelligent people. This loss can mostly be stopped through such cooperation as I have indicated. The use of Federal funds for the organization of a strong Federal agency for this purpose is justified to exactly the same degree that the use of the funds of the city for the organization and maintenance of a fire-fighting department is justified.

Second, for more complete cooperation with the States in growing and distributing forest-planting material. In most States there are regions better suited for timber growth than for any other purpose. Federal aid would have powerful and far-reaching effects in establishing new forests where they are most critically needed.

Third, for the purchase of timberland, which has been carried on under the act of March 1, 1911, should be extended as rapidly as the condition of the Public Treasury will permit. Such purchases represent money invested and not money spent. The lands already purchased could be sold for more than they cost, and as the timber grows they will increase in value and become a continuing source of national income. Aside from the direct value of such lands, such Federal enterprise serves as an educational stimulus to the reforestation of near-by lands in private ownership, which is greatly to the public benefit.

Fourth. There are large areas of lands in the unreserved public domain which are better suited to timber growth than to any other purpose, and similar large areas in Indian reservations which will ultimately be withdrawn as tribal properties and thrown open for other disposition. All of such lands ought to be included within the national forests. The practical way to do this is to authorize the President, with the assistance of some agency, such as the National Forest Reservation Commission, to classify and dispose of these public lands in accordance with their character and place in the national forests such lands as are best suited for forest purposes.

Fifth. Provision should be made for research in the growing and utilization of timber on a scale adequate to present

needs. While we are advancing rapidly in acquiring technical information, our present research agencies can not meet the demands of the existing situation as to timber use or new timber growth.

Legislation which would include the five matters before mentioned ought to be enacted at the earliest possible date. It would give the opportunity for the working out and application of a forest policy suited to the needs of the Nation. When we look about us and see the extent to which we use wood in our daily lives and then reflect upon the fact that we are cutting down our forests four times as fast as we are growing them, the urgent need of developing a comprehensive forest policy without further delay should be recognized by every man in a position of legislative or administrative responsibility.

Fighting Forest Fires.

Very substantial progress was made during the fiscal year in checking the inroads which forest fires are making in the

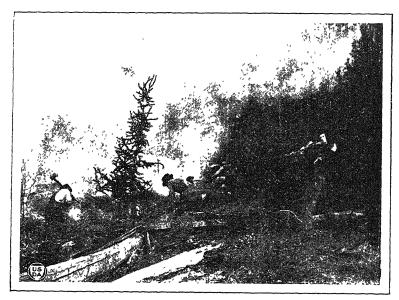


Fig. 11.—Fighting forest fires is a gruelling job. These fighters are clearing a line to break the advancing flames and save the sturdy trees in the background. The Forest Service uses every possible means to fight fires on the national forests, of which 60 per cent are man-caused and therefore preventable; and is making a strenuous effort not only to suppress fires, but to curb the willful and the carcless setter of fires.

timber resources of the Nation. During a season of unusual hazard the fire-protective organization on the national forests of the West was brought to the highest pitch of efficiency

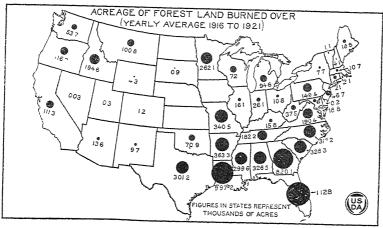


Fig. 12.—The largest areas burned over annually are in the South, where organized fire protection is either entirely lacking or, with a few exceptions, wholly inadequate, and where the burning of woodland pastures is still extensive. In the Northeast and the far West the situation is better, but far from satisfactory. In killing the young growth on which our future timber supply depends, forest fires do an even greater damage, though less spectacular, than the annual loss of \$10,000,000 worth of merchantable

it has ever yet reached, with the result that in most cases threatening fires have been reached promptly and suppressed with the minimum of loss and expenditure. However, the greatest progress has been made in bringing ander protection privately owned timberlands. The increase in the appropriation from \$125,000 to \$400,000 for cooperation with the States in protecting forested watersheds of navigable streams made possible a very material extension of the work. The area placed under protection during the past year was increased by 26,000,000 acres. At the same time the protective force was strengthened and improved in regions where the smaller appropriations of the past have admitted only the retention of a mere skeleton fire-fighting organization. Cooperation was established with two additional States-Ohio and Tennessee-making the total number now 26. The additional funds made it possible to meet emergency conditions in several States where the fire hazard this year was unusually great.



The appropriation of Federal funds for this purpose has stimulated local interest in the efforts to safeguard the essential raw material represented by their forest areas. During the fiscal year 1922 the 26 States cooperating with the department in fire protection along navigable streams expended for that purpose from their own funds a total of \$1,897,000, an increase of about \$830,000 over the expenditure of the previous year. In addition to these public expenditures, private owners expended approximately a million dollars in the protection of their forests against fire. Federal leadership has heartened both the States and the private owners in undertaking this work, with the result that a very substantial forward step has been made in checking the red scourge.

According to the best information obtainable by the Forest Service, there has been an average of 33,500 fires annually during the past six years, burning an average area of 7,088,000 acres and involving an average annual immediate property loss of \$16,424,000. The greatest loss and the greatest number of fires now occur in the regions not under cooperative protection. About one-half the forest lands of the country outside the national forests are now receiving some form of systematic fire protection, but 166,000,000 acres of forest lands are still wholly unprotected from fire and the

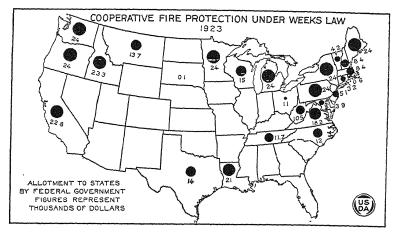


Fig. 13.—The Federal Government under the Weeks law annually allots to various States a total of \$400,000 for protection against forest fires. This cooperation has not only greatly strengthened organized fire protection, but has extended it over a larger territory, and has helped to awaken public sentiment. The South with its extensive forest fires and its lack of adequate protection against them, offers a promising field for joint work under the Weeks law.

annual loss in such regions is appalling. We can not as a people rest content with such a showing. Such wholly unnecessary destruction must be stopped.

Federal-Aid Road Construction.

Ten thousand two hundred and forty-seven miles of road projects were brought to complet on during the year through Federal aid to the States. Prior to the fiscal year 1922,



Fig. 14.—A Federal-aid road in Illinois surfaced with concrete.

7,469 miles had been completed. This brings the total completed up to the end of the fiscal year to 17,716 miles. The mileage completed during the year under the Federal-aid system is classified as follows:

	Miles.
Graded and drained	2,060
Sand-clay	1, 210
Gravel	3,842
Waterbound macadam	265
Bituminous macadam	370
Bituminous concrete	400
Concrete	
Brick	165
Bridges	20
•	
·	10 047

At the close of the year the projects under construction, amounting to approximately 14,500 miles, were estimated to be about 56 per cent complete.

The total apportionment of Federal funds to the States, up to and including the fiscal year 1922, amount to \$339,-875,000. Of this, \$297,018,923 had been set aside for definite projects, many of which had been completed prior to the close of the year, others placed under construction, and still others which were more recently approved were awaiting construction. The amount of Federal aid paid or due on completed projects up to the end of the year was \$132,-079,204. The total cost of these projects, more than 50 per cent of which has been paid by the States, was \$309,466,524.

On projects under construction at the end of the year Federal aid has been allotted to the amount of \$109,989,757.

GROWTH OF FEDERAL-AID ROAD CONSTRUCTION.

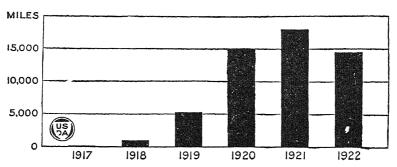


Fig. 15.—From a small beginning in 1917 the mileage of Federal-aid road projects has grown to large proportions, as shown by the projects under construction at the close of each fiscal year, 1917–1922.

The estimated total cost of these projects is \$254,269,813. The total amount of Federal aid actually paid to the States on completed and uncompleted projects up to the end of the year was \$166,911,552. During the fiscal year the total amount paid out of the Treasury was \$88,216,122, which is greater by almost \$10,000,000 than was paid during the five years previous. Of the appropriations made by the Federal Government there remained unobligated at the end of the fiscal year \$42,856,079.

At the present rate of building not many years will be required to give the Nation a connected system of good highways in all directions. During the fiscal year 1922 Congress enacted legislation providing for the designation of a system of Federal-aid roads in all States to consist of not more than 7 per cent of the total mileage of roads in the States and authorizing appropriations of Federal aid in the construction of this system in the amount of \$50,000,000 for the fiscal year 1923, \$65,000,000 for the fiscal year 1924, and \$75,000,000 for the fiscal year 1925, thus determining and indicating to the States in advance of the actual appropriation of funds the amount of Federal aid to be extended, and consequently the rate at which the building of highways under this plan is to progress during the three ensuing years.

The department is pursuing its scientific studies of road construction, maintenance, and design. Out of these studies is coming much exceedingly valuable information, which should result in both greater efficiency and greater economy in our road-building enterprises.

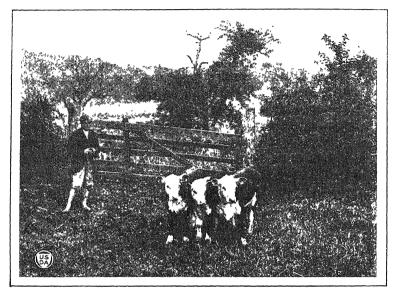
National Forest Road and Trail Construction.

During the fiscal year approximately 1,100 miles of national forest roads and 3,000 miles of trail were constructed by the department, bringing the total mileage of roads constructed in the national forests from Federal funds, supplemented at times by local cooperation, to nearly 5,000 miles and the total of the forest trails up to approximately 7,000 miles. The total expenditures to date for this type of work amounts to approximately \$17,000,000.

Extension Activities.

In compliance with the mandate of the law which created the Department of Agriculture, to "diffuse among the people of the United States useful information on subjects connected with agriculture, in the most general and comprehensive sense of that word," the extension activities of the department take various forms. There are now about 4,000 persons employed in cooperation with the State agricultural colleges. Agricultural agents are employed in about 2,100 counties, home-demonstration agents in 800 counties, and club agents in 200 counties. In addition, there are 750 district agents and specialists in the preparation of subject matter who cooperate with the county extension workers. It is estimated that through the extension personnel the department comes in contact with about 2,500,000 farm homes.

The 491,000 boys and girls enrolled in club work report products valued at more than \$7,000,000. Of the field agents, 272 are colored and work to aid negro farmers. About



ANTICIPATION.

Fig. 16.—The taim upon which these calves are being raised was one of the good farms of Virginia some forty years ago. The previous owner of the farm dispensed with livestock in his farming operations. The background of the picture, including the grown-up fence row, the sagging gate, and scraggy trees in the pasture, tells its own story. But there is now hope in the present generation. The boys have become interested in purebred calves. It is safe to say that in later years, with proper methods of livestock production, a decided improvement will be made in the general appearance of the farm.

\$7,000,000 of Federal money was spent for extension work during the past year, to which was added about \$9,700,000 of State money.

Publications.

Other agencies used in diffusing information to the people are bulletins, pamphlets, and periodicals, motion pictures, exhibits at State and district fairs, and mimeographed material distributed to the press. As indicated in my report for 1921, careful consideration has been given to our publications. A committee of editors was called in last year and asked to make a thorough study of the various publications

of the department and suggest such changes as they thought desirable to make such publications more helpful to the recipients. Most of the suggestions made by this committee have been acted upon favorably. The demand for the publications of the department is indicated by requests voluntarily made for them. During the past year not less than 650,000 requests for publications have been received, in addition to the 33,500 received from Members of Congress. Fifty-eight new Farmers' Bulletins were printed, aggregating 1,738,379 copies; 108 new Department Bulletins were produced, in the total number of 577,800 copies, while 525,000 copies of 43 new department circulars were printed. When to these new publications is added the number of old publications reprinted on demand, we find that during the fiscal year the printing of publications of the department reached a grand total of 36,026,334 copies.

The distribution is more efficient than for some time past. At our request, representatives of the Bureau of Efficiency have aided in a revision of the mailing lists, which has resulted in a considerable saving in mailing work. No names are kept on our distribution lists except upon special request, and there is no automatic distribution of all the department's bulletins except to libraries and other institutions which need them.

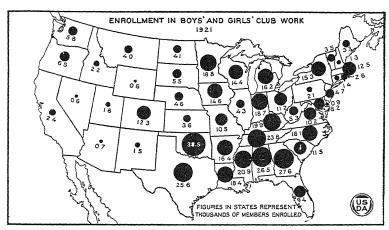


Fig. 17.—This map shows the extent and distribution of the enrollment of farm boys and girls in club work as a part of the extension work in agriculture and home economics carried on by the Department of Agriculture in cooperation with State agricultural colleges.

The educational motion pictures of the department are growing in favor; 33 new films were completed, and 21 old films revised. Work was begun on 28 new subjects. The department now has a total of 547 reels available for distribution. Pictures are circulated by extension workers and schools. It is estimated that the department films are seen each year by an audience of between four and five million persons.

The department exhibits were displayed at more than 60 fairs and expositions and special shows, at which the total attendance was more than 4,000,000. The form of presentation of these exhibits has been much improved. An attractive exhibit for the Brazilian International Centennial Exposition at Rio de Janeiro, depicting the agricultural resources and development of the United States, was designed, prepared, and shipped to Brazil.

Reorganization of Extension Work.

As a result of special study of extension activities of the department it seems desirable to reorganize this work to some extent. At the present time there is no one person who is charged with the responsibility of coordinating all of the extension work of the department. In the Budget for the ensuing year I have asked Congress to provide for a director of extension work, and in the meantime I am shaping our work with a view to such reorganization. It is the plan to bring under this directing head all of those offices which have to do entirely with extension work. These are the office of cooperative extension work now in the States Relations Service, the office of motion pictures in the Division of Publications, and the Office of Exhibits, temporarily attached to the Assistant Secretary's office. These offices, in addition to the editorial office, are the ones through which the bureaus find expression for the work which is ready for presentation to the public. The plan will make unnecessary the States Relations Service, the office of the director of information, and the Division of Publications, and when put into effect will do away with them as such. The other offices in these divisions will be placed under the supervision of the director of scientific work, the director of regulatory work, or within the Secretary's office proper.

I plan to attach the editorial and distribution work direct to the Secretary's office, and have asked Congress in this year's Budget to provide for a new position of an assistant in charge of the editorial office, with a salary sufficiently large to attract a capable man for this important work. It is the plan to place him in charge of all the editorial work. During the past year we have given particular attention to the statistical accuracy of the Department Bulletins. The duties of the assistant in charge of editorial office would include this supervision.

Packers and Stockvards Act.

The packers and stockyards act, which provides for Government supervision, through the Secretary of Agriculture, of meat packers, of stockyards, and of stockyards agencies, such as live-stock commission merchants, was enacted in August, 1921. The constitutionality of the act was attacked in the courts and the setting up of the organization necessary to carry out the provisions of the act was therefore delayed. Its constitutionality was fully upheld by the Supreme Court of the United States in May, 1922.

The packers were subject to the act immediately upon its passage, and no registration or other special formality was necessary. A survey of the stockyards resulted in finding 78 of such vards in 70 cities in 35 States to be subject to the jurisdiction of the Secretary of Agriculture, and these stockyards have been formally posted as required by law; 1,075 market agencies and 3,436 dealers at these markets are registered under the law, and the schedules of rates and charges of the stockyard companies and commission men have been published and filed. Resident market supervisors have been assigned to 19 of the stockyard markets, and these supervisors have been given jurisdiction over the remaining markets which were not considered sufficiently large to . justify resident supervisors. General rules and regulations governing stockyards and market agencies and dealers have been adopted and put into effect.

The various agencies which come under the provisions of the act have shown a disposition to cooperate in its enforcement, and this has made it possible to correct many practices through conference and without formal proceedings. Through such conference the use of butter packages con-

taining less than pounds and even fractions of pounds has been discontinued and the principle of standardization of retail packages has been accepted by the packers. Audits of the books of commission merchants in some yards reyealed conditions which clearly needed correction, and satisfactory progress in this direction has been made. offensive boycott by one group of market agencies against another at one of the principal stockyards was promptly stopped and the principle of open, competitive marketing established. Certain arbitrary price discriminations working to the injury of live-stock owners are being brought to an end and actual market values substituted in the sale and purchase of live stock. Complaints against commission charges in one market and the announcement that formal hearings would be held resulted in bringing into conference representatives of the commission merchants and of the livestock shippers tributary to that market. At this conference it was agreed that the matter of the reasonableness of commission charges should be informally submitted to representatives of the Department of Agriculture without the expense of a formal hearing, and that all parties would abide by the decision rendered after such informal hearing. Developments so far indicate that there is a growing spirit of understanding and willingness to cooperate between the traders on the various markets, the packers, and the stockvards agencies.

In the enforcement of this act the dominating thought is to bring about harmony and cooperation and remove cause for antagonisms, misunderstandings, and irritations, to the end that confidence in the manner in which live stock is marketed shall be established.

The Grain Futures Act.

In August, 1921, Congress enacted the futures trading act, which provided for governmental supervision through the Secretary of Agriculture over future trading on grain exchanges. An appeal was made to the courts, and in May, 1922, the Supreme Court of the United States rendered a decision which invalidated the regulatory portions of the act. The decision, however, pointed the way to the enactment of legislation that should accomplish the purposes of Congress, and such legislation has since been enacted under

the interstate power of Congress. The constitutionality of the new act has in turn been attacked, and pending the decision of the court little progress can be made in its enforcement.

The tax imposed by the act of August, 1921, on transactions known as "privileges," "bids," "offers," "puts and calls," etc., was upheld by the Supreme Court, and the result has been that these transactions have been discontinued. In addition, the Supreme Court expressly stated that its decision did not affect the duty placed on the Secretary of Agriculture by the futures trading act to investigate the facts about grain-marketing conditions. Representatives of the department have therefore been maintained at Chicago and Minneapolis, where they have kept close observation over the operations of the exchanges and have compiled a large amount of information as to the volume and course of transactions on the exchanges. This information will be helpful in carrying out the provisions of the new law.

The requirements of the new law, which becomes effective on November 1, 1922, are substantially the same as those of the one declared unconstitutional. There is no interference with "hedging" transactions on the boards of trade or with the ordinary speculation or buying and selling of contracts for future delivery. If there should be evidence of undue manipulation or attempts to corner the market, or of the dissemination of false or misleading information about crop or market conditions by members of the exchanges, such matters will be inquired into and promptly dealt with as required by the statute.

The Secretary of Agriculture is given authority to examine the books and records of the members of the exchanges and to require such reports as may be necessary to carry out the provisions of the act. There is thus an opportunity to make a thorough inquiry into prevailing systems of grain marketing and to secure information which has never heretofore been available, and which is urgently needed before important changes in marketing methods can safely be required.

A Building Program for the Department.

In my annual report last year I called attention to the fact that the offices and laboratories of the Department of

Agriculture in Washington are scattered in more than 40 buildings in various parts of the city. There has been no improvement in this situation and, due to the lack of centralized housing facilities, there continues to be a tremendous waste of Government time and money. A satisfactory and efficient administration of the work is impaired by difficulty of personal contact between the Secretary and the officers of the department, as well as between bureau chiefs and units of their own respective bureaus. One bureau of the department alone is housed in nine separate buildings, some of them widely scattered. It is impossible to overemphasize the need for a centralized housing of the department activities.

During the year we have been busy on this problem, and a housing committee, of which the Assistant Secretary is the chairman, in cooperation with the architects of the Treasury Department, has prepared with great care a proposed building program, which if carried out will house practically all branches of the department in Washington in buildings to be erected on or adjacent to the department reservation on the Mall. The proposed program contemplates: (1) The acquisition of ground south of the department's reservation and construction thereon of a plain officetype building of six or eight stories. The estimate of the cost of such a building, including the site and enlargement of the power plant of the department, is \$4,350,000. This would do much to meet the most pressing housing need of the department, as it will provide a building of large capacity, and it can be constructed at this relatively low cost for the reason that it would not be located on the Mall and therefore can be erected as a plain office building without interference with the plans for the beautification and development of the Mall. (2) The next most pressing need is for the completion of the central section connecting the two existing marble structures now occupied by the department on the Mall, known as the east and west wings, at an estimated cost of \$2,000,000. The two wings were completed in 1908 and have been used by the department since that date, but no funds have been available for the construction of the central portion of the building. (3) When these two projects have been completed, the construction is proposed on the northern end of the department's reservation

on the Mall of a portion of a building of suitable construction facing south with several wings extending toward the north, the approximate cost of which would be \$6,000,000, and (4) the completion of the proposed building on the northern end of the reservation by the construction of a north façade, at an estimated cost of \$3,000,000. While this program will involve an ultimate outlay of \$15,350,000, it could be started with an initial expenditure of \$3,000,000 for the first year and approximately the same amount during the second year, and the remainder could be extended over a period of years.

This is one of the fundamental needs of the department which has been recognized by all who have had any connection with the housing of the Government departments in recent years, and I earnestly recommend that it be provided for as soon as the state of the Nation's finances will permit. In the meantime, at my request, experts of the United States Bureau of Efficiency are making a survey of the present space arrangements in the department with a view to affording such relief, if any, as may be possible by regrouping of the space assignments pending the provision of suitable and adequate housing for the department.

New Seed-Grain Loans.

The act of March 20, 1922, authorized the making of seed-grain loans in crop-failure areas for the crop of 1922 and appropriated \$1,500,000, to be expended under the direction of the department, for that purpose. Under the provisions of this act \$1,463,812.69 was loaned to 11,968 borrowers in the States of Idaho, Montana, North Dakota, South Dakota, and Washington. The total expense of making the loans was less than \$20,000.

Collection of Seed-Grain Loans.

During the spring of 1921, under the authority contained in the annual Agricultural appropriation act, approved March 3, 1921, a total of 13,935 seed-grain loans was made by the department in Montana, North Dakota, Idaho, and Washington, aggregating \$1,954,929. These loans were made at a cost of approximately \$16,000 for administrative expenses and \$5,000 for recording fees for crop mortgages.

Crop conditions generally throughout the seed-loan territory were poor during the following season, and collections during the winter months and up to June 30, 1922, amounted to only \$668,742 on the principal of the loans and \$1,415 on

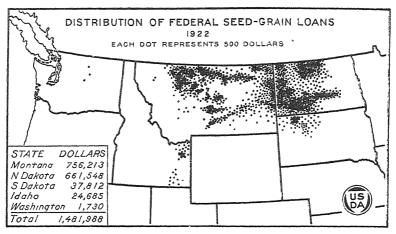


Fig. 18.—The seed loans in the Northern Great Plains amounted to about one and one-half million dollars in 1922, of which one-half was repaid by January 1, 1923.

the interest. The expense of making these collections was approximately \$25,000. So far as practicable, borrowers who were unable to repay their loans were required to renew their promissory notes and execute new mortgages on their 1922 crop as security. At the close of the fiscal year 1922 there were outstanding unpaid seed-grain loans for the two years amounting to approximately \$2,750,000. The urgent deficiency bill approved July 1, 1922, appropriated \$50,000 to cover the expense of collecting the unpaid seed loans during the fiscal year 1923. Crop conditions in the seed-loan territory are now more favorable than for several years in the past, and the department is proceeding with collections.

Messenger Service.

Because of the widely scattered locations of the forty-odd buildings occupied by the department, it is necessary to employ a large number of messenger boys. Approximately 200 such employees are on the rolls in Washington. During the year the department has devoted especial attention to the

situation surrounding the employment of these boys. Under existing regulations the position of messenger boy is not regarded as in the apportioned service. It is virtually impossible, therefore, to promote these boys to higher clerical positions, regardless of how deserving or capable they may be. As the service promises no future for them, the department is unable to secure and retain the most desirable boys. Thus we have a situation altogether contrary to that which usually prevails in any well-managed private business. The experience in this department indicates that it probably would be advantageous to bring about a change in the existing regulations so that it would be possible to promote deserving messenger boys to clerical positions where they indicate a marked capacity for growth in the service. The department has felt considerable responsibility for the welfare of these employees and during the year has given especial attention to improving their general conditions. With the cooperation of the Public Library, reading courses in standard works have been prepared and made available to them. Meetings of these employees have been held and every effort made by the department executives to urge them to take advantage of the free evening schools. One hundred and twenty-eight, or 64 per cent of the total number emploved in Washington, have registered for evening instruction.

After consultation with the agencies in Washington working with boys, arrangements have been made by which physical instruction and direction is given once each week in the Y. M. C. A. gymnasium. A simple supper follows the gymnasium hour, at which talks are made by Government and other people with the object of interesting the boys in self-improvement.

Economies Effected in the Department.

In the administration of the work during the fiscal year the urgent necessity for economy in governmental expenditures has at all times been kept in mind by the officers and employees of the department. In conformity with the plan established by the Bureau of the Budget, reserves amounting to \$1,406,984 were set up against the various annual appropriations of the department. By the exercise of strict

economy at the close of the year the department was able to add further unused balances in the amount of \$678,749, and this, together with the \$1,406,984 reserved, made total savings of \$2,085,733 turned back to the Treasury in the form of unexpended balances from the annual appropriations.

In addition to the foregoing a reserve of \$559,569 was set up from the so-called continuing appropriations of the department, which are available until expended. While this money will eventually be expended, it was found possible under the necessities of the times to defer the expenditures beyond the present fiscal year, and thus for the present to save the withdrawal of the cash from the Treasury.

The efforts toward reduction in expenditures were not confined merely to keeping intact the reserves reported in the foregoing. The business administration of the department generally has been subjected to close scrutiny and specific economies inaugurated all along the line. The department has been actively represented on the various coordinating agencies created under the authority of the Bureau of the Budget. A traffic manager has been appointed to coordinate and handle the large volume of shipments and extensive passenger movements in connection with the work of the department. Careful attention has been given to economies which might be effected by changes in organization, and worth-while results have been achieved in this direction also, some of which will be mentioned later.

Particular attention has been given to the purchasing work of the department. After a survey of this work was made by an expert detailed from the Bureau of the Budget a director of purchases and sales was designated to coordinate the purchasing work and the disposition of surplus property. Changes have been made in former procedure. The work has been placed upon a more businesslike basis by a closer scrutiny of purchase requirements. By reorganization and extension of the powers of the department board of awards competition has been widened on supplies and equipment bought. By consulting with commodity experts in this and other departments prior to purchasing the department has kept informed on market conditions in various lines and has been able to place orders more advantageously.

The purchase of certain commodities has been centralized for Washington and near-by field stations, enabling the department to secure better prices by quantity orders.

Investigation is constantly being made into the availability of surplus property from other departments and its use wherever economical instead of the purchase of new equipment by the department. The stocks and equipment of the entire department itself have been gone over carefully, both in Washington and in the field, and under a system which has been established a large amount of surplus equipment for which the holding bureaus have no further use is furnished to other bureaus, thus avoiding additional purchases. Serviceable motor trucks have been secured at nominal costs from surplus stocks of other departments to replace worn-out trucks in the centralized trucking unit of the department, making better hauling service available to the bureaus at lower cost. The revenues from the sale of perishable products from the field stations of the department near Washington have been more than doubled by a special order issued during the year centralizing all such sales in the department's supply division.

To summarize, here as elsewhere in the service, "Economy with efficiency" has been the watchword. The constant aim during the year has been to develop a consciousness on the part of each officer and employee of the department of the necessity and personal responsibility on his part for the maximum efficiency and economy with respect to his own particular work and the items of expenditure with which he may have to do. Economies and increased efficiency effected in this way in connection with the routine business operation of the department can not be adequately measured by figures, but they are of fundamental importance as the sound foundation of the whole economy program. The record of the year includes gratifying reports of this type and reflected increases in the efficiency of the lines of work affected. A few typical instances are interesting.

Reduction in manufacturers' price of automobiles and tires and tubes for field use taking place after proposals had been submitted to the department have been secured by the board of awards calling for revised prices instead of accepting the bids as originally submitted.

A department shop for the repair of awnings has been established at a saving of approximately \$3,000 a year. Facilities for the repair of typewriters and bicycles by the department itself are being established at material savings over the prices formerly paid to commercial concerns for these services. The installation of new equipment in the central power plant of the department made possible a reduction in force of six firemen and one engineer and reduced the annual consumption of coal by approximately 400 tons.

In the Fixed Nitrogen Research Laboratory of the department a change of grate bars in one of the heating plants saved \$500 a year on the coal bill. By redesigning certain electrical equipment enough electrical energy has been saved to operate a battery of electrolytic cells to enable the laboratory to make its own hydrogen, effecting a saving of over \$4,000 a year in the purchase of liquid ammonia. This branch also effected a saving of \$13,000 during the year in reduction of personnel.

A revision of all of the mailing lists of the department conducted with the assistance of the United States Bureau of Efficiency resulted in the elimination from the lists of more than 100,000 names and addresses. One list of 8,000 names was discontinued altogether, saving 344,000 Government bulletins a year, or an annual expenditure of more than \$7,000.

The addressing and duplicating work for all of the bureaus has been consolidated under the Division of Publications, resulting in a reduction in personnel and the release of \$20,000 worth of machinery to the General Supply Committee for assignment to other departments. Better methods of management applied to the conduct of the duplicating work as a centralized activity have reduced the percentage of wastage of paper by 75 per cent.

Three separate periodical publications—The Market Reporter, The Monthly Crop Reporter, and the National Weather and Crop Bulletin—were combined during the year into one periodical, known as Weather, Crops, and Markets, and marked savings were thereby effected. Another periodical which duplicated much of the material sent out through the regular channels was discontinued altogether. A relatively expensive information service to the press was dis-

continued and in its place was substituted a more extensive service to newspaper syndicates at practically no expense to the Government. At the close of the year the department turned into the Treasury from the appropriation for printing and binding an unexpended balance of \$183,848.

In the Forest Service, a bureau having extensive field operations, an estimated saving of 25 per cent in its annual telegraph bill of \$10,000 is being accomplished through increased censorship. Through centralized purchase direct from producers, savings of not less than 15 per cent are being effected from an annual expenditure exceeding \$300,-000 on the purhase of smoked meats, canned goods, and dried fruits, and the quality of food used for the maintenance of field parties on road and trail work in the forests has at the same time been improved. Inspection and administrative trips are planned in accordance with carefully workedout schedules in order to secure for the Government the advantage of specially reduced round-trip rates. By this means an average saving is made of \$50 per person traveling out of Washington for western points during the year. In order that the maximum amount may be available for the purchase of essential supplies and equipment for the field operations of the service, the purchase of office furniture has been stopped altogether. Seven thousand dollars have been saved in this way during the year and applied to the more urgent needs of the service. The headquarters of the bureau at one western point has been removed to cheaper quarters at an annual saving of approximately \$10,000.

In the Weather Bureau a demand for \$11,320 additional funds required to meet increased rental charges on expiring leases was met by reducing the number of rooms occupied by the field offices of the bureau involved so as to keep within the existing allowance for rentals. The same situation arose July 1, 1921, and was met in a similar manner, notwithstanding the offices of the bureau have been crowded thereby.

The consolidation of the Bureau of Markets and the Bureau of Crop Estimates on July 1, 1921, resulted in savings of approximately \$30,000 through the reduction of the personnel engaged on administrative work. A similar consolidation of administrative services was effected on July 1, 1922, when the Bureau of Markets and Crop Estimates was

further merged with the Office of Farm Management and Farm Economics to form the new Bureau of Agricultural Economics, in which the economic work of the department is now centralized. It is estimated that an additional \$30,000 was saved in overhead expenditures by this consolidation. In addition the consolidation has made possible the coordination of the work of various technical divisions of the three former bureaus, thereby eliminating duplication and overlapping throughout the economic units.

In the Insecticide and Fungicide Board the field work has been redistricted, resulting in a saving of approximately \$1,500 a year without loss of efficiency.

In the States Relations Service, by the consolidation of the two Washington offices engaged in directing the work of agricultural extension, salaries aggregating approximately \$20,000 have been saved, and as the result of centralizing and rearranging the clerical work in the administrative offices of the same bureau salaries of clerks to the amount of \$8,000 have been saved.

One field office of the Bureau of Animal Industry was discontinued during the year and the work of that office consolidated with another, resulting in a saving of approximately \$4,000. Two divisions of the bureau in Washington were merged, resulting in the saving of the salary of one chief of division and one clerk, amounting to \$5,070. By consolidating the work of an employee on the Canadian border with the duties of another inspector a saving of \$1,500 was effected, and the recall of one inspector from overseas has resulted in a further saving of \$3,300. In the meat-inspection service, by realignment of the force, the actual expenditure during 1922 was reduced several thousand dollars, notwithstanding the fact that nearly 1,000,000 more animals were slaughtered under inspection during the year and almost 300,000,000 more pounds of meat food products were reinspected, thus avoiding the necessity for additional appropriations. In the work of supervising the preparation of biological products a saving of approximately \$4,000 was accomplished through reduced travel. During the year there were produced 3,037,771 more doses of tuberculin than in the fiscal year 1921, and this was accomplished at a saving of \$20,885 over the amount expended during the

previous year. The manufacture and distribution of blackleg vaccine was also discontinued on July 1, resulting in a saving of \$10,000 per annum.

In the Office of Exhibits the agricultural displays have been prepared in such manner that they can be used a number of times without replacement, whereas formerly the department exhibits frequently were suitable for use during one or two seasons only.

In the Bureau of Biological Survey it was possible during the year to use \$20,000 of the money set aside as a reserve to enable the department in cooperation with one of the Western States to cope with a serious outbreak of rabies among coyotes, which threatened to spread into other stock producing States. As a result of the availability of the money previously reserved, the outbreak was brought under control. If the reserve had not been available it would have been necessary for the department to have asked the Congress for an additional appropriation in connection with this emergency.

The economies listed above are typical of the spirit in which the department has entered into the plan to conduct the business of the Government on the most economical and efficient basis possible.

While, as pointed out in the foregoing, we have been able to make a great many very substantial savings in money expended through the application of modern business methods, it is increasingly evident that the largest economies to be effected in the department are those which come as a result of efficient organization. Such economies can not be expressed in dollars and cents. They are measured rather by the larger effectiveness of the work and the amount of work done for the money expended. The reorganization which resulted in bringing three units into one in the Bureau of Agricultural Economics is a case in point. This reorganization effected considerable savings which can be measured in money, but altogether the larger savings have come through the increased efficiency and better administration of the work done in this particular field. I am quite sure that similar desired results will follow the reorganization of the extension work. This reorganization has had the

careful study of the Assistant Secretary for a year past, and the final plan submitted is the result of that study. When put into effect, as we hope it may be, it will result in considerable saving of money, but, what is far more important, will greatly increase the effectiveness of the extension workers and the quality of the extension work.

Respectfully,

HENRY C. WALLACL.

Secretary of Agriculture.

Funds of the Department.

The net cost to the Federal Government of the regular activities of the department during the fiscal year 1922 was approximately \$34,000,000, as indicated by the following table:

Federal Funds for Regular Work of the Department.

Agricultural appropriation act, 1922 (exclusive of appropriations made direct to States for research	
work under the Hatch and Adams Acts and for	
extension work under the Smith-Lever Act; appropriations for farmers' seed-grain loans, for the ac-	
quisition of lands by the National Forest Reserva-	
tion Commission, and for a study of short-time rural	
credits by a congressional joint committee; and	
immediately available appropriations expended dur-	\$30, 409, 643. 00
ing 1921)Agricultural appropriation act, 1923, immediately	φου, 100, 010. 00
available funds expended during 1922	35, 982. 00
Deficiency appropriation acts (Aug. 24, 1921, Dec. 15, 1921, and Mar. 20, 1922)	1, 627, 875, 00
1921, and Mar. 20, 1922)Permanent annual appropriation for meat inspection	1, 021, 315. 00
(act of June 30, 1906) Protection of lands involved in Oregon and California	3, 000, 000. 00
Protection of lands involved in Oregon and California	
Railroad forfeiture suits (sundry civil appropriation act, 1922, and deficiency appropriation act of July	
1 1999)	30, 726, 00
Increase of compensation (legislative appropriation	
act, 1922)Printing and binding (sundry civil appropriation act,	3, 137, 882 00
1922)	725, 000. 00
Allotment for fixed-nitrogen research (transferred	,
from appropriation placed at disposal of the President by the national defense set of June 2, 1016)	500, 000, 00
dent by the national defense act of June 3, 1916)	500, 000. 00
	39, 467, 108. 00
Excess of unexpended balances and surplus fund,	
fiscal year 1922, over balances of appropriations	14, 450, 00
from prior yearsActual expenditures from Federal funds for	11, 100. 00
regular work Less receipts, 1922, deposited in United States Treas-	39, 452, 658. 00
Less receipts, 1922, deposited in United States Treasury to credit of miscellaneous-receipts fund (see	
p. 64)	5, 209, 364, 81
-	04 040 000 40
Net cost of regular work	54, 243, 293. 19

Of the total expenditure of \$39,000,000 for the regular work of the department, approximately \$9,000,000, or 23 per

62

cent, was used for research; \$3,000,000, or 8 per cent, for extension; \$20,000,000, or 51 per cent, for service and regu-

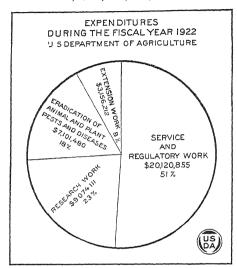


Fig. 19—Over one-half of the expenditures of the Department of Agriculture are for service and regulatory work which are primirily for public protection rather than for the development of agriculture.

latory activities; and \$7,000,000, or 18 per cent, for campaigns for the eradication and control of various animal and plant diseases and pests.

Special Funds from Receipts.

In addition to direct Federal appropriations, the following special funds from Forest Service receipts were available for work incident to the department's regular activities:

Roads and trails for States (construction and improvement of roads and trails within national forests): Amount available from deferred national-forest grazing-fee receipts for fiscal year 1921, collected in fiscal year 1922 (see p.	
64) \$161, 236, 34 Amount available from receipts for fiscal year 1921 247, 997, 19 Balance from receipts in prior	
years 369, 284. 19	(to produce to the control of the co
Cooperative work, Forest Service (contributions from private sources): Receipts for fiscal year 1922 (see p. 64)	\$778, 517. 7 <u>2</u>
Balance from receipts in prior	
fiscal years 570, 566. 65	\$1, 948, 941. 49
Total availableActual expenditures from special funds, 1922	2, 727, 459, 21 2, 045, 415, 38
Unexpended balance, June 30, 1922 (available for expenditure during fiscal year 1923)	682, 043. 83

Direct Income to Government in Connection with Work of Department of Agriculture, Fiscal Year 1922.

Incident to the department's work during the fiscal year 1922, direct receipts aggregating \$8,403,394.05 were covered into the Treasury, and fines were imposed and judgments re-

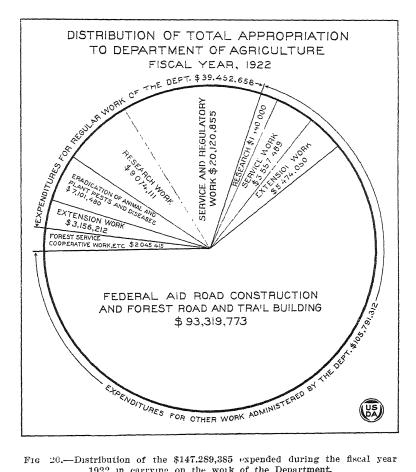


Fig 20.-Distribution of the \$147.289,385 expended during the fiscal year 1922 in carrying on the work of the Department.

covered by the courts amounting to \$168,769.36 in connection with the enforcement by the department of the regulatory acts which devolve upon it for administration and execution, as shown on the following page:

Yearbook of the Department of Agriculture, 1922. 64

Receipts: Deposited to credit of miscollaneous receipts fund— From business on the national forest—\$4,628,462-42 From other sources————————————————————————————————————	\$5, 209, B64 8 1
department Deposited to ciedit of appropriation administered by but not used in prosecuting regular work of department— Reimbursement for cost of distributing surplus war materials to States for use in road-construction work \$323,015.85	324, 081, 48
Repayments by firmers of seed-giain 668, 742 77 Deposited to ciedit of special funds of Foiest Service (from business on the national forests)	991, 759-62 1, 878, 188-14
Total receipts Fines imposed and judgments recovered by the courts in connection with violations of statutes intrusted to Department of Agriculture for enforcement	8, 403, 394-05 168, 769, 36
Total direct income to Government resulting from activities of Department of Agriculture	8, 572, 163, 41

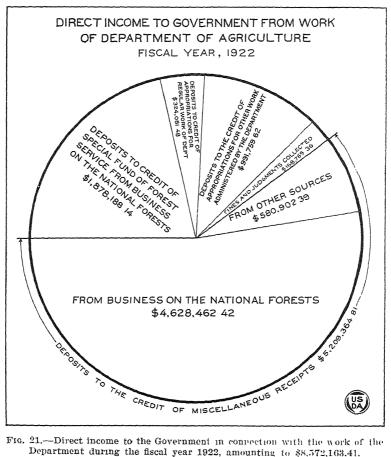


Fig. 21.—Direct income to the Government in connection with the work of the Department during the fiscal year 1922, amounting to \$8,572,163.41.

Federal Appropriations Administered by Department, but Not Used for its Regular Work.

In addition to the \$39,452,658 expended by the department for the conduct of its investigative, regulatory, and other routine activities, and the \$2,045,415.38 applied to forest road and trail construction and cooperative work from special Forest Service receipt funds, \$105,790,311.81 was expended during the fiscal year 1922 from appropriations administered by the department other than those used for the prosecution of its regular work. These funds were provided for the following purposes:

Items	Appropriation available, fiscal year 1922	Expenditure, fiscal year 1922	Unexpended balance, June 30, 1922
Extension work in agriculture and home economics			
Provided by Smith-Lever Act of May 8, 1914	\$4,080,000 00		
Supplementary fund provided by agri- cultural appropriation act for 1922	1,500,000 00		
	5, 580, 000 00	1 \$5, 474, 050, 00	\$105, 950 00
Research work of State agricultural experiment stations (provided by agricultural			
appropriation act for 1922)	1, 440, 000. 00	1 1, 440, 000 00	
Federal-aid road construction (provided by acts of July 11, 1916, Feb. 28, 1919, and Nov 9, 1921): Rural post roads—			
Appropriated for fiscal year 1922 Balances from prior years	75, 000, 000. 00 193, 693, 858 96		
	268, 693, 858. 96	2 89, 990, 337. 53	8 178, 703 521. 43
Roads and trails within or adjacent to national forests—			
Appropriated for fiscal year 1922	6,000,000 00		
Balances from prior years	3, 437, 473. 96		
	9, 437, 473. 96	3, 329, 435 52	⁸ 6, 108, 038. 44
Farmers' seed-grain loans. Appropriation provided by special act of Mai 20, 1922, for loans to farmers			
in spring of 1922	1, 500, 000. 00		
tural act of Mar. 3, 1921, for seed loans.	2,000,000.00		
, ,	3, 500, 000, 00	4 2, 811, 966. 96	5 688, 033. 04

¹ Paid direct to States by Treasury Department. ² Including expenditures from \$148,200 available for road-material investigations ³ Of these amounts approximately \$160,000,000 was obligated through cooperative road-

building agreements

§ \$1,321,038 24 expended in spring of 1921.

§ Includes \$668,742 77 repaid by farmers during fiscal year 1922 (p. 64).

Item	Appropriation available, fiscal year, 1922.	Expenditures, fiscally ear 1922	Unexpended balance, June 30, 1922.
Payment from national-forest receipts for benefit of county schools and roads .	\$1,082,679 99	\$1,082,679 99	
Acquisition of lands by National Forest Reservation Commission for protection of forested watersheds of navigable streams			
Provided by agricultural appropriation act for 1922	1,000,000.00 1,298,371 84		-
	2, 298, 371 84	839, 916-37	81 458, 455 17
Expenses of National Forest Reservation Commission (provided by act of Mar 1, 1911)	25, 000, 00	186 00	24, 814, 00
amounts required to secure purchase pince of timber, use of lands, etc Study of short-time rural credits (provided by agricultural appropriation act of 1922	71, 086, 82	71, 086, 82	
for use of a special congressional com- mittee)	5,000 00	5,000 00	
Work done by Department of Agriculture for other departments at their request, under authority of sec. 7, fortifications act of May 21, 1920. Allotments from other departments, fiscal year 1922	74, 800. 00		
1921	5, 842 35		
	80,642 35	18, 167, 67	62, 474 68
Payments during 1922 from balances remaining available of outstanding accounts for expenses incurred in fiscal year 1921 and prior years	727, 484. 95	727, 184. 95	
10, 1917, Mar 28, 1918, and Oct 1, 1918) Stimulating agriculture and facilitating distribution of products—purchase of seed and sale to farmers (balance of war emergency revolving fund provided by	9, 936, 328 00		⁶ 9, 936, 328, 00
acts of Aug. 10, 1917, and Mar. 28, 1918)	5, 680, 380, 00		7 5, 680, 380, 00
Total Federal appropriations administered by department but not used for its regular work.	308, 558, 306. 87	105, 790, 311. 81	202, 767, 99 5. 06

Including \$9,500,000 turned into surplus fund Dec. 7, 1921.
 Turned into surplus fund Dec. 7, 1921.

Summary of all appropriations available to the Department of Agriculture for fiscal year 1923.

Title of appropriation Amount appropriated Expenditures to June 30, 1922. Agricultural act for fiscal year 1922
Supplemental appropriations contained in deficiently acts of Aug. 24, 1921, Dec. 15, 1921, Mar. 20, 1922, sundry civil act, and legislative act of Mar. 3, 1921 Supplemental appropriations contained in deficiently acts of Aug. 24, 1921, Dec. 15, 1921, Mar. 20, 1922, sundry civil act, and legislative act of Mar. 3, 1921 Supplemental appropriations contained in deficiently acts of Aug. 20, 1922, Sept. 20, 20, 20, 20, 20, 20, 20, 20, 20, 20,
Supplemental appropriations contained in deficiently acts of Aug. 24, 1921, Dec. 15, 1921, Mar. 20, 1922, sundry civil act, and legislative act of Mar. 3, 1921 Supplemental appropriations contained in deficiently acts of Aug. 24, 1921, Dec. 15, 1921, Mar. 20, 1922, sundry civil act, and legislative act of Mar. 3, 1921 Supplemental appropriations contained in deficiently acts of Aug. 20, 1922, Sept. 20, 20, 20, 20, 20, 20, 20, 20, 20, 20,
deficiently acts of Aug. 24, 1921, Dec. 15, 1921, Mai. 20, 1922, sundiverval act, and legislative act of Mai. 3, 1921 Suppressing spread of pink hollworm of cotton
1921, Mar 20, 1922, sundry civil act, and legislative act of Mar. 3, 1921 Suppressing spread of pink hollworm of cotton
Supplessing spread of pink hollworm of cotton
Suppressing spread of pink hollworm of cotton
Fighting forest fires
Tuberculosis indemnities, Bureau of Animal Industry
Animal Industry 600,000.00 Administration of warehouse act 9.015.00 General expenses, Bureau of Soils 2,860.00 Salanes and expenses, wool division 2,500.00 Enforcement of packers and stock-
Administration of warehouse act 9.015.00 General expenses, Bureau of Soils 2,860.00 Salaires and expenses, wool division 2,500.00 Enforcement of packers and stock-
General expenses, Bureau of Soils 2,860,00 Salaries and expenses, wool division 2,500 00 Enforcement of packers and stock-
Salaries and expenses, wool division 2,500 00
Enforcement of packers and stock-
vards act 200,000 00 151,238 00 48.762.00
Operation of Center Market
Enforcement of future trading act 47,500.00 13,884 00 33,616.00
White-pine blister rust control
Farmers' seed grain loans
Printing and binding
Increase of compensation
Insect infestation, Forest Service 150,000 00 40,815.00 109,185.00
Permanent specific appropriations.
Meat inspection (act of June 30, 1906) 3,000,000.00 2,584,842.00 415,158.00
Cooperative agricultural extension
work (act of May 8, 1914)
Cooperative construction of roads and
trails, national forests (act of July 11,
1916)
National Forest Reservation Commission (act of Mar 1, 1911)
Continuing appropriations: Cooperative construction of rural post
roads (act of Nov 9, 1921)
Forest highways (act of Nov. 9, 1921) 2,500,000.00 269,873.00 2,230,127.00
Forest road development (act of Nov 9,
1921)
Indefinite appropriations:
Refunds to depositors, national-forests
fund
Special funds
Roads and trails for States, national-
forests fund
Payments to States and Territories,
national-forests fund
Payments to school funds, Arizona and
New Mexico, national-forests fund 59, 596. 18 59, 596. 18
Cooperative work, Forest Service 1,378,374.84 996,879.09 381,495.7

Summary of all appropriations available to the Department of Agriculture for fiscal year 1922—Continued.

Title of appropriation	Amount appro- puated	Expenditures to June 30, 1922	Unexpended balance June 30, 1922
Allotments from other departments		New Miles Research Control of Con	
Nitrate plant	\$502,600 00	\$226,697.00	\$275,903,00
Protection of lands, California and	1002,000 00	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1
Oregon Railroad suits	30,726.85	30,614.85	112,00
Air service, Aimy, 1922		14,740.00	260 00
Aviation, Navy, 1922	,	,	50,000 00
Breeding experimental animals, Army,	1		00,000
1922	1,000 00	429.00	571 00
Investigations for Federal Power Com-			
mission	5,800 00		5,800 U
Manufacture of aims	400.00	400.00	
Unexpended balances of appropriations			
for prior fiscal years remaining available	1		
for expenditure during fiscal year 1922	1		
Appropriations for fiscal year 1920 and			
prior years	3,760,431 00	1,236,671.00	1 2, 523, 760 0
Appropriations in agricultural act and			
supplemental acts for fiscal year 1921.	5,710,359 00	4,547,898.00	1,162,461 0
Cooperative work, Forest Service	570, 567 00	570, 567 00	
Acquisition of lands for protection of	1		
forested watersheds of navigable			
streams	1,298,371 84	609, 149. 81	689, 222, 00
Procuring and disposing of nitrate of			
soda	9, 936, 327. 96		19,936,327 9
Stimulating agriculture and facilitating			
distribution of products (seeds)	5,680,380.00		1 5,680,380,00
Cooperative construction of rural post			
roads	193,693,858 96	89,990,337 96	103, 703, 521, 00
Cooperative construction of roads and			
trails, national forests	1,003,175.11	866, 146-14	136,729,00
Federal forest road construction	2, 434, 298. 82	1,668,359 16	765, 939, 36
Roads and trails for States, national		,	
forests fund	369, 284. 19	369, 284, 19	
Other continuing appropriations	680,337 62	60, 302, 03	1 620, 025, 59
Total	360, 184, 309, 00	147 000 007 00	1 212, 894, 924, 00

Total expenditures, fiscal year 1922. \$147, 289, 385, 00
Revenues received and deposited to miscellaneous receipts during fiscal year. 5, 209, 364, 81

Not cost of all work done by department. 142,080,020, 19

 $^{^{1}}$ Of these balances \$17,729,185 was turned into the surplus fund of the Treasury during the year.

Review of Agricultural Production and Exports.

Acreage of crops in the United States

				The state of the s	and the owner of the party of t	Chatter of the second of the s	THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE OW	Complete Com		The state of the s
Grop.	1922 (prehminary estimate)	1 1351	1920	6101	1918	1917	1916	1915	1914	Annual average, 1910-1914.
CEREALS.	103, 234, 000	103, 850, 000	101, 699, 000	97, 170, 000	104, 467, 000	116, 730, 000	105, 296, 000	106, 197, 000	103, 435, 000	105, 240, 000
Wheat	56, 770, 000	62, 408, 000	61, 143, 000	75, 694, 000	59, 181, 000	45,089,000	52, 316, 000	60, 469, 000	53, 541, 000	48, 953, 000
Oats	41,822,000	44, 826, 000	42, 491, 000	40, 359, 000	44, 349, 000	43, 553, 000	41, 527, 000	40, 996, 000	38, 442, 000	38,014,000
Barley	7, 550, 000	7,240,000	7,600,000	6, 720, 000	9, 740, 000	8, 933, 000	7, 757, 000	7, 148, 000	7, 565, 000	7,305,000
Rye	5, 148, 000	4, 228, 000	4, 409, 000	6, 307, 000	6, 391, 000	4,317,000	3, 213, 000	3, 129, 000	2, 541, 000	2, 305, 000
Buckwheat	707,000	671,000	701,000	700,000	1,027,000	921,000	828,000	769,000	792,000	826,000
Rice	1,009,000	911,000	1,336,000	1,063,000	1,118,550	980, 900	869,000	803,000	694,000	733,000
Grain sorghums	4,374,000	4, 652, 000	5, 120, 000	2, 060, 000	6, 036, 000	5, 153, 000	3,941,000	1, 151, 000		
Total	220, 614, 000	228, 786, 000	224, 499, 000	233, 073, 000	232, 309, 550	225, 679, 900	215, 750, 000	223, 661, 000	223, 661, 000 2207, 010, 000	2203,376,000
VEGETABLES. Potatoes	4, 228, 000	3, 815, 000 1, 066, 000	3,657,000	3, 542, 000 941, 000	4, 295, 000 940, 000	4, 384, 000 919, 000	3, 565, 000	3, 734, 000 731, 000	3,711,000	3, 6 <u>5</u> 6, 000 611, 000
Total	5, 356, 000	4,881,000	4,649,000	4, 183, 000	5, 235, 000	5, 303, 000	4, 339, 000	1, 165, 000	1,311,000	4, 297, 000
TobaccoCotton.	1, 763, 000	1, 435, 000	1,960,000	1, 951, 000	1,617,100	1, 518, 000 33, 841, 000	1, 113, 000 34, 985, 000	1,369,900	1, 224, 000	1, 209, 000
Grand total	262, 585, 000	265, 611, 000	266, 986, 000	273, 073, 000	275, 199, 650	266, 341, 900	256, 187,000	260, 910, 900	249, 380, 000	241, 212, 000
	1 Charlesont	Curbant to some as in December 1000	December 100	00		6	1 Declaration of the contract of the	acceptante		Vo. Salasida apparentia apparenta son

¹ Subject to revision in December, 1922.

² Excluding grain soighums

Exports of domestic foodstuffs and cotton from the United States

[Reports of Bureau of Foreign and Domestic Commerce, United States Department of Commerce]

Aritcles exported. Annual average. Igil. Igi		ד פמו בוו	ı ear enumş June 50—				
Articles ex forted. Arterage, 1915 1915 1916 1917 Wheat bushels. 56, 913, 225 256, 642, 533 173, 274, 015 149, 331, 427 Wheat flour barrels. 66, 913, 225 26, 642, 533 173, 274, 015 149, 331, 427 Oats bushels. 8, 34, 765 16, 182, 765 15, 520, 669 11, 912, 773 Oats do 7, 835, 521 20, 754, 722 27, 473, 160 16, 381, 077 Corn do 39, 809, 690 48, 786, 291 35, 217, 012 64, 720, 844 Total, 5 cereals and flour						1922	
Wheat flour barrels 56, 913, 225	1916	1918	1919	1920	1921	Amount.	Per cent of 1910- 1914
Wheat flour. barrels 10, 678, 635 16, 192, 765 15, 520, 669 11, 912, 773 Oats	173, 274, 015		178, 582, 673	122, 430, 724	293, 267, 637	208, 321, 091	366.0
Age Salvania	15, 520, 669	,	24, 181, 979	21, 651, 961	16, 179, 956	15, 796, 819	147.9
Barley	97, 918, 584	11, 990, 123	27, 540, 188	33, 944, 740	4 302, 346	15, 767, 264 189 9	189 9
Corn	27, 473, 160		20, 457, 781	26, 571, 284	20, 457, 198	22, 400, 393	283.7
Total, 5 cereals and flour S. 429, 735, 124 26, 567, 042, 632 20, 780, 577, 136 19, 330, 110, 6.25 Sugardo To, 976, 908 549, 007, 411; 1, 630, 150, 863 1, 245, 905, 284 Butterdo 4, 277, 955 9, 550, 704 13, 487, 481 26, 537, 093 Cheesedo 4, 915, 502 75, 382, 917, 44, 394, 301, 66, 050, 013 Total dairy Total dairy	35, 217, 012	12 40, 997, 827	16, 687, 538	14, 167, 926	66, 911, 093	176, 409, 614	443 1
70, 976, 908 4, 277, 955 4, 915, 502 1) 8. 15, 773, 900	12, 632 20, 780, 377, 136 19, 330, 110. 62	8,13, 951, 418, 508	21, 996, 905, 576	16, 859, 428, 924	28, 195, 134, 292	28, 728, 753, 392	340 8
do 4, 277, 955 9, 550, 704 13, 487, 481 do 4, 915, 502 75, 362, 917, 44, 394, 301 nsed) unds 15, 773, 900 37, 235, 627 179, 777, 620 2 afrey	07, 411; 1, 630, 150, 863 1, 248, 908, 28		576, 483, 050 1, 115, 865, 161 1, 444, 030, 665	1, 444, 030, 665	582, 698, 488	2, 002, 038, 450 2, 820. 7	2, 820. 7
4, 915, 502 57, 362, 917. 44, 394, 301. 15, 773, 900 37, 235, 627 179, 577, 620 2	13, 487, 481	17, 737, 966	33, 739, 960	27, 155, 834	7,829,255	7. 511. 997	175 6
15,773,900 37,235,627 179,577,620	44, 394, 301		18, 791, 553	19,378,158	10, 825, 603		
Total dairy	159, 577, 620	31 528, 759, 232	728, 740, 509	710, 533, 270	266, 506, 031	288, 628, 398 1, 829. 9	1,829.9
products products products 21.967.377 102.449.248 217.438.409 332.096.336	217, 459, 402	190 798 274	eco 57,8 187	242 067 969	985 160 880	303 611 847 1 916 0	0.16.0

	39, 8	13.6		81.5	41.8		6 09	, 020. s	97.3		.5 .5	, 280. 7	192 1		162, 8		69.4	171.3		44, 9		45, 1		30.8	:	
	3, 738, 486	3, 996, 019		26, 792, 121	117, 174, 260	_	1, 989, 121	33, 017, 879 1, 020. s	27, 658, 097		2, 263, 102	25, 921, 083 1, 280. 7	350, 548, 952		271,611,786		33, 516, 746	812, 379, 396		19, 572, 940		30, 328, 176		1,963,518	7, 207, 829	
	10, 762, 986	21, 084, 203		23, 312, 856	106, 411, 800		6, 219, 165	19, 177, 311	16, 813, 868		1, 118, 967	57, 075, 446	489, 295, 109		172,011,676		33, 286, 062	746, 157, 246		23, 544, 303		12, 155, 971	-	1, 129, 723	4, 926, 552	
	31, 133, 918	153, 560, 647		32, 383, 501	74, 529, 491		20,952,180	22, 505, 602	32, 937, 026		3, 261, 967	27, 224, 941	803, 666, 861		275, 155, 931		41, 643, 119	587, 224, 549		23, 202, 027	-	11, 195, 812		7,034,150	14, 750, 963	verage
	108, 459, 660	332, 205, 176		45, 065, 641	59, 292, 122		18, 570, 100	11, 537, 281	16, 172, 111		5, 273, 329	19, 644, 388	1, 238, 247, 321	-	667, 240, 022		31, 503, 997	721, 771, 383		17,395 388		128, 157, 327		8, 503, 550	9, 721, 927	2 4-year average
	97,343,283	370, 032, 900		54, 167, 910	56, 603, 388		6, 309, 896	10, 360, 030	5, 014, 964		5, 194, 468	21, 390, 288	815, 294, 124		119, 571, 869		33, 221, 502	392, 506, 355		1, 258, 529		31, 278, 3~?		5, 787, 108	9, 239, 311	
gravita galanda garanna	67, 536, 125	197, 177, 101		58, 053, 667	67, 110, 111	.,	5, 651, 267	12, 936, 357	15, 209, 369		5, 896, 126	50, 135, 615	667, 151, 972		200, 656, 581		16, 992, 721	144, 769, 510		17, 576, 240		56, 359, 493		6, 294, 950	9, 134, 471	
	50, 803, 765	231, 214, 000		38, 114, 682	102, 645, 914	angered Was	5, 426, 221	13, 062, 247	16, 288, 743		9,610,732	63,005,521	579, 808, 786		282, 208, 611		63, 160, 713	427, 011, 338		31,426,590		52, 843, 311		6, 823, 085	8, 590, 236	erage.
www.magazairin.co.phil	75, 243, 261	170, 440, 931		31, 874, 743	80, 481, 946		5, 252, 183	11, 457, 907	20, 239, 988		1,644,418	3, 908, 193	346, 718, 227		203, 701, 114		45, 655, 574	475, 531, 908		26,021,054		69, 980, 614		1,821,958	5, 183, 525	¹ 2-year average.
	9, 392, 122	29, 452, 302		32, 893, 172	280, 224, 505		3, 268, 279	13, 234, 533	29,008,749		4, 227, 086	2,023,911	182, 474, 092		166, 813, 134		48, 274, 929	474, 354, 914		2 43, 571, 550		67, 318, 857		6, 369, 268		
Meat and meat products:	··spunod·····	Fresh beef.do	Pickled beef	··spunod·····	Oleo oildo	Oleomargarine	··· spunod···	Stermdo	Tallowdo	Canned pork	spunod	Fresh pork.do	Bacondo	Hams and shoul-	derspounds	Pickled pork	spunod	Larddo	Lard, neutial	···spanod·····	Lard, compounds	···spunod·····	Sausage, canned	···spunod·····	Sausage, otherdo	

$Exports\ of\ domestic\ foodstuffs\ and\ cotton\ from\ the\ United\ States$ [Reports of Bureau of Foreign and Domestic Commerce, United States Department of Commerce]

				Year en	ding June 30—	-			
Annual								1922	
average, 1910–1914.	1915	1916	1917	1918	1919	1920	1921	Amount	Per cent of 1910– 1914
56, 913, 228	259, 642, 533	173, 274, 015	149, 831, 427	34, 118, 853	178, 582, 673	122, 430, 724	293, 267, 637	208, 321, 091	366 0
10,678,635	16, 182, 765	15, 520, 669	11, 942, 778	21, 879, 951	24 181,979	21,651,961	16, 179, 956	15,796,819	147 9
8, 304, 203	96, 809, 551	95, 918, 884	\$8,944,401	105, 837, 309	96, 360, 974	33, 944, 740	4,302,346	15, 767, 264	189.9
854, 765	12,544,880	14, 532, 437	13, 260, 015	11,990,123	27, 540, 188	37, 463, 285	45, 735, 052	29, 903, 602	3, 498. 5
7, 895, 521	26, 754, 522	27, 473, 160	16, 381, 077	26, 285, 378	20, 457, 781	26, 571, 284	20, 457, 198	22, 400, 393	283 7
39, 809, 690	48, 786, 291	38, 217, 012	64, 720, 842	40, 997, 827	16,687,538	14, 167, 926	66, 911, 093	176, 409, 614	443.1
8, 429, 735, 124	26, 567, 042, 632	20, 780, 577, 136	19, 330, 110, 628	13, 951, 418, 808	21, 996, 905, 576	16, 859, 428, 924	28, 195, 134, 292	25,728,753 392	340. 8
70, 976, 908	549, 007, 411	1 630, 150, 863	1, 248, 908, 286	576, 483, 050	1, 115, 865, 161	1, 444, 030, 665	582, 698, 488	2, 002, 038, 450	2, 820. 7
1 077 055	9, \50, 704	13, 487, 481	26, \$35, 092	17, 735, 966	33, 739, 960	27, 155, 834	7, 829, 255	7, 511, 997	175 6
4,277,955 4,915,502	55, 362, 917	44,394,301	66, 050, 013	41, 303 076			1 , , ,		
4,913,302	55, 502, 917	44, 594, 501	, 130, 013	41,000 070	12,791,505	18,010,103	10, 525 005	7,471,492	132.0
15,773,900	37, 235, 627	159, 577, 620	259, 141, 231	528, 759, 232	725, 740, 509	710, 533, 270	266, 506, 031	288, 628, 398	1,829.9
21,967,357	102, 449, 248	217, 459, 402	352, 026, 336	590, 798, 271	751, 272, 022	757, 067, 262	285, 160, 889	303,611,947	1, 216. 0

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	ŀ	and the same of th	-				1		
ì	ļ						1		
9, 392, 122	75, 243, 261	50, 803, 765	67, 536, 125	97, 343, 283	108, 459, 660	31, 133, 918	10, 762, 986	3, 738, 486	39-8
29, 452, 302	170, 440, 931	231, 214, 000	197, 177, 101	370, 032, 900	332, 205, 176	153, 560, 647	21, 084, 203	3, 996, 049	13.6
	1						ĺ		
32, 893, 172	31, 874, 743	38, 114, 682	58, 053, 667	54, 467, 910	45, 065, 641	32, 383, 501	23, 312, 856	26, 792, 124	81 5
280, 224, 505	80, 481, 946	102, 645, 914	67, 110, 111	56, 603, 388	59, 292, 122	74, 529, 494	106, 414, 800	117, 174, 260	41 8
}	i i	į	}			1	1	}	
3, 268, 279	5, 252, 183	5, 426, 221	5, 651, 267	6, 309, 896	18, 570, 400	20, 952, 180	6, 219, 165	1, 989, 121	60, 9
1 3, 234, 533	11, 457, 907	13, 062, 247	12, 936, 357	10, 360, 030	11, 537, 284	22, 505, 602	19, 177, 311	33,017,879	1,020.8
29, 008, 749	20, 239, 988	16, 288, 743	15, 209, 369	5, 011, 964	16, 172, 111	32, 937, 026	16, 843, 868	27, 658, 097	95. 3
		1	1			1	1		
4, 227, 086	4, 644, 418	9, 610, 732	5, 896, 126	5, 194, 468	5, 273, 329	3, 261, 967	1, 118, 967	2, 263, 102	53 5
2,023,911	3, 908, 193	63,005,524	50, 435, 615	21, 390, 288	19, 644, 388	27, 224, 941	57, 075, 446	25, 921, 083	1, 280. 7
182, 474, 092	346, 718, 227	579, 808, 786	667, 151, 972	815, 294, 424	1, 238, 247, 321	803, 666, 861	489, 298, 109	350, 548, 952	192. 1
	1		1			į	1	}	
166, 813, 134	203, 701, 114	282, 208, 611	266, 656, 581	119, 571, 869	667, 240, 022	275, 155, 931	172,011,676	271,611,786	162, 8
			}			}	}	1	
48, 274, 929	45, 655, 574	63, 160, 713	16, 992, 721	33, 221, 502	31, 503, 997	41, 643, 119	33, 286, 062	33, 516, 746	69. 1
474, 354, 914	475, 531, 908	427, 011, 338	144, 769, 540	392, 506, 355	724, 771, 383	587, 224, 549	746, 157, 246	812, 379, 396	171.3
			1				1	ĺ	
2 43, 571, 550	26,021,054	31, 426, 590	17, 576, 240	1, 258, 529	17, 395 588	23, 202, 027	22, 511, 303	19, 572, 940	44.9
	, ,						1	1	
67, 318, 857	69, 980, 614	52, 843, 311	56, 359, 493	31, 278, 382	128, 157, 327	41, 195, 812	42, 155, 971	30, 328, 176	45, 1
				, ,					
6, 369, 268	1, 821, 958	6, 823, 085	6, 294, 950	5,787,108	8, 503, 580	7, 034, 150	4, 429, 723	1, 963, 548	30.8
	5, 183, 525	8, 590, 236	9, 134, 171	9, 239, 341	9, 721, 925	14, 750, 963	1, 926, 552	7, 207, 829	
		•			,	•			

¹ 2-year average.

² 4-year average

Exports of domestic foodstuffs and cotton from the United States—Continued.

[Reports of Bureau of Foreign and Domestic Commerce, United States Department of Commerce.]

					Year en	ıdıng June 30—				
	Annual								1922	
Articles exported.	average, 1910-1914.	1915	1916	1917	1918	1919	1920	1921	Amount	Per cent of 1910- 1914.
Sausage casings.do	33, 644, 928	30, 818, 551	14, 708, 893	6, 118, 060	6, 173, 578	13, 521, 093	24, 379, 414	29, 894, 681	27, 768, 795	82.5
Total 18 meat										
products pounds	1, 416, 546, 331	1,608,976,098	2, 000, 053, 391	2, 001, 059, 766	2, 344, 048, 215	3, 455, 285, 647	2, 220, 042, 132	1, 806, 713, 925	1, 797, 478, 669	126 9
Total of food										
products mentioned										
above pounds	9, 942, 225, 720	28, 827, 475, 389	24, 628, 240, 792	22, 932, 105, 016	17, 462, 748, 347	27, 349, 328, 406	21, 280, 568, 983	30, 869, 707, 594	32, 831, 882, 358	330. 2
Cottondo	4, 419, 802, 157	4, 403, 578, 499	3, 084, 070, 125	3, 088, 080, 786	2, 320, 511, 665	2, 762, 946, 754	3, 543, 743, 487	2, 811, 388, 710	3, 358, 878, 748	76. 0
Grand totalpounds	14, 362, 027, \$77	33, 231, 053, 888	27, 712, 310, 917	26, 020, 185, 802	19, 783, 260, 012	30, 112, 275, 160	24, 824, 312, 470	33, 681, 096, 304	36, 190, 761, 106	252.0

Crop production in the United States [The figures are in round thousands—1 e , 000 omitted]

		I THE HEU	res are in rot	ma mousan	15-1 e , 000	ommered 1				
	1922 pre- liminary estimate	1921 1	1920	1919	1918	1917	1916	1915	1914	Annual average, 1910–1914.
CEREALS.										
Cornbushels	2, 896, 108	3, 080, 372	3, 208, 584	2, 811, 302	2, 502, 665	3, 065, 233	2, 566, 927	2, 994, 793	2, 672, 804	2, 732, 457
Wheatdo	810, 123	794, 893	833, 027	967, 979	921, 438	636, 655	636, 318	1,025,801	891, 017	728, 225
Oatsdo	1, 229, 774	1,060,737	1, 496, 281	1, 184, 030	1, 538, 124	1,592,740	1, 251, 837	1,549,030	1,141,060	1, 157, 961
Barley	196, 431	151, 181	189, 332	147,608	256, 225	211,759	182,309	238, 851	194, 953	186, 208
Ryedo	79,623	57,918	60, 490	75, 483	91,041	62,933	48,862	54,050	42,779	37,568
Buckwheatdo	13,643	14,079	13, 142	14, 399	16, 905	16, 022	11,662	15,056	16, 881	17, 022
Ricedo	39, 159	36, 515	52,066	41,985	38, 606	34,739	40, 861	28, 947	23,649	24, 378
Grain sorghumsdo	81, 488	115, 110	137, 408	130, 734	73, 241	61,409	53, 858	114,460		· · · · · · · · · · · · · · ·
	5, 346, 349	5, 310, 805	5, 990, 330	5, 373, 520	5, 438, 215	5, 681, 490	4, 792, 634	6, 010, 988	2 4, 983, 143	⁹ 4, 483, 819
VEGETABLES.									1	
Potatoesbushels	433, 905	346, 823	403, 296	322,867	411,860	442, 108	286, 953	359, 721	409, 921	360, 772
Sweet potatoesdo	110, 359	98,660	103, 925	97, 126	87,921	83, 822	70, 955	75, 639	56, 574	57, 117
Beans (commercial)do	13,013	9,118	9,077	13,349	17,397	16, 045	10,715	10, 321	11,585	
Onions (commercial)do	20,309	13,757	23, 525	11,398	19, 336	12,376	8, 562	7,664	(8)	· · · · · · · · · · · · · · · · · · ·
Cabbage (commercial)tons	1,134	687	982	357	498	475	255	671	(3)	· · · · · · · · · · · · · · · · · · ·
FRUITS.										
Peachesbushels	56, 125	32,733	45,620	53,178	33, 094	48,765	37, 505	64,097	51, 109	45, 842
Pearsdo	17,772	10, 705	16,805	15, 101	13, 362	13, 281	11,874	11, 216	12,086	11, 184
Applesdo	205, 539	98,097	223,677	142,086	169,625	166, 749	193, 905	230, 011	253, 200	197, 898
Cranberries (3 States)barrels	561	373	449	549	352	249	471	441	697	

¹ Subject to revision, December, 1922.

² Excludes grain sorghums.

⁸ No estimate

Baports of domestic foodstuffs and cotton from the United States-Continued. [Reports of Bureau of Foreign and Domestac Commerce, United States Department of Commerce]

		MANAGEMENT OF THE PROPERTY OF			Vearen	Veer ending June 30_				
					TO YES	on our a sum				
Articles exported.	Annual								1922	
	1910-1914.	1915	1916	1917	1918	1919	1920	1921	Amount	Per cent of 1910- 1914.
Sausage casıngs.do	33, 644, 928	30, 818, 551	14, 708, 893	6, 118, 060	6, 173, 578	13, 524, 093	24, 379, 414	29, 894, 681	27, 768, 795	82, 5
Total 18 meat productspounds	1, 416, 546, 331	1, 608, 976, 098	2,000,053,391	products pounds 1,416,546,331 1,608,976,098 2,000,053,391 2,001,059,766 2,344,048,215 3,455 285,647 2,220,042,132 1,806,713,925 1,797,478,669	2,344,048,215	3, 455 285, 647	2, 220, 042, 132	1,806,713,925	1, 797, 478, 669	126.9
Total of food products mentioned above	9, 942, 225, 720	28, 827, 475, 389	24, 625, 240, 792	9, 942, 225, 720 28, 827, 475, 380 24, 628, 240, 792 22, 982, 105, 016 17, 462, 748, 347 27, 349, 328, 406 21, 280, 568, 988 330, 869, 707, 594 32, 831, 882, 358	17, 462, 748, 347	27, 349, 328, 406	21, 280, 568, 983	30, 869, 707, 594	32, 831, 882, 358	330 2
Cottondo	4 419, 802, 157	4, 403, 578, 499	3, 084, 070, 125	4 419, 802, 157 4, 403, 578, 499 3, 084, 070, 125 3. 085, 080, 786 2, 320, 511, 665 2, 762, 946, 751 3, 543, 743, 487 2, 811, 388, 710 3, 358, 878, 748	2, 320, 511, 665	2, 762, 946, 754	3, 543, 743, 487	2,811,388,710	3, 358, 878, 748	76.0
Grand total	14, 362, 027, 577	33, 231, 053, 888	27, 712, 310, 917	rand totalPounds 14, 362, 027, 577 33, 231, 073. 888 27, 712, 310, 917 26, 020, 185, 802 19, 783, 260, 012 30, 112, 275, 160 24, 824, 312, 470 33, 681, 096, 304 36, 190, 761, 106	19, 783, 260, 012	80, 112, 275, 160	24, 824, 312, 470	33, 681, 096, 304	36, 190, 761, 106	252, 0

[The figures are in round thousands—1 e, 000 omitted] Crop production in the United States

	1922 pre- hminary estimate.	1921 1	1920	1919	1918	1917	1916	1915	1914	Annusl average, 1910-1914.
CBREALS. Corn. bushels. Wheat. do. Oats. do. Barley. do. Rye. do. Buckwheat. do. Rtce. do. Grain sorghums. do.	2,886,108 810,123 1,223,774 196,431 73,623 13,643 39,159 81,488	3, 080, 372 794, 893 1, 060, 737 151, 181 57, 918 14, 079 36, 515 110, 110	3, 208, 584 833, 027 1, 496, 281 189, 332 60, 490 13, 142 52, 066 137, 408	2, 811, 302 967, 979 1, 184, 080 147, 608 75, 483 14, 399 41, 985	2, 502, 665 921, 438 1, 538, 124 256, 225 91, 041 16, 905 38, 606 73, 211	3, 066, 233 (36, 655 1, 592, 740 211, 759 (62, 933 16, 022 34, 739 (61, 409	2, 566, 927 636, 318 1, 251, 837 182, 309 48, 862 11, 662 40, 861 53, N58	2, 994, 793 1, 025, 801 1, 549, 030 238, 851 54, 050 15, 056 28, 947 111, 460	2, 672, 804 891, 017 1, 141, 060 194, 953 42, 779 16, 981 23, 649	2,732,457 728,235 1,157,961 186,208 37,508 17,022 24,378
	5, 346, 349	5, 310, 805	5, 990, 330	5, 373, 520	5, 438, 215	5, 681, 490	4, 792, 631	6, 010, 958	6,010,958 24,983,143	2 4, 483, 819
VEGETABLES. Potatoesbushels Sweet potatoesdo Beans (commercial)do Omions (commercial)do	433, 905 110, 359 13, 013 20, 309 1, 134	346, 823 98, 660 9, 118 13, 757 687	403, 296 103, 925 9, 077 23, 525 982	322, 867 97, 126 13, 349 11, 398 357	411, 860 87, 924 17, 397 19, 336 498	442, 108 83, 822 16, 045 12, 376 475	286, 953 70, 955 10, 715 8, 562 255	359, 721 75, 639 10, 321 7, 661 671	409, 921 56, 574 11, 585 (8)	360, 772 57, 117
Peaches FBUITS. 56,125 32,73 Pears do 17,772 10,70 Apples do 205,539 98,09 Cranberries (3 States) barrels 561 37 I Subject to revision, December, 1922.	56, 125 17, 772 205, 539 561 7iston, Decen	32, 733 10, 705 98, 097 373 nber, 1922.	45, 620 16, 805 223, 677 449	53, 178 15, 101 142, 086 549	5,178 33,091 48,77 5,001 13,302 13,2 5,086 169,025 166,77 549 352 2	48, 765 13, 281 106, 749 249 orghums.	37, 505 11, 874 193, 905 471	64, 097 11, 216 230, 011 441	94, 097 54, 109 11, 216 12, 086 80, 011 253, 200 441 697 8 No estimate.	45, 842 11, 184 197, 898

Crop production in the United States—Continued. [The figures are in round thousands—1. e., 000 omntted.]

		Par out	102 di 0 111 100	ara managan	THO IS IN OUR TOWN WINDSHIES IN CH AND STREET	ommonor.]				
	1922 pre- liminary estimate.	1921	1920	1919	1918	1917	1916	1915	1914	Annual average, 1910-1914.
MISCELLANEOUS.										
Flaxseedbushels	12, 101	8,112	10, 774	7,256	13, 369	9,164	14, 296	14,030	13,749	18, 353
Sugar beetstons	5,000	7,782	8,538	6,421	5,949	5,980	6, 228	6,511	5, 585	5,391
Tobaccopounds		1,075,418		1, 465, 481	1, 439, 071	1,249,276	-	1,062,237	1,034,679	991, 958
All haytons		96, 802	105, 315	104, 760	91, 139	98, 439	110,992	107, 263	88, 686	81,640
Cottonbales	10, 135	7,954	13,440	11, 421	12,041	11,302	11,450	11, 192	16, 135	14, 259
Sorghum sirupgallons		45, 554	49, 505	39, 413	33,387	37, 472	13,668	14,823	13, 551	14,974
Peanutspounds	691,057	816, 465	841, 474	783, 273		1, 432, 581	919,028			
Broom corntons	32	35	36	53		57	39	52		
Clover seedbushels	1,865	1,411	1,944	1,484	1, 197	1,488	1,706			

Publications of Department.

During the fiscal year ending June 30, 1922, the department issued publications as summarized in the table below. Of the 33,734,779 copies of bulletins and statistical periodicals printed, 12,235,387 were new and 21,499,392 were reprints of those previously published.

There were 58 new Farmers' Bulletins, of which 1,738,379 copies were printed and of which four-fifths were available for distribution by Congressmen in accordance with law. Farmers' Bulletins contain concise specific statements in nontechnical style of recommendations and directions for procedure in modern agricultural practices. There were 108 new Department Bulletins, of which 577,800 copies were printed. These Bulletins contain technical discussions of facts or conditions of importance to agriculture, primarily the results of experimental work of the department. In the Department Circular series, 43 new titles were added to the list. These circulars contain information contributions of less technical nature than Department Bulletins and are designed for scientific and limited mailing lists.

Publications issued by the Department of Agriculture during the fiscal year ending June 30, 1922.

		New.	Re	printed.		and re- inted.
Name of publication.	Num- ber of titles.	Number of copies printed.	Num- ber of titles.	Number of copies printed.	Num- ber of tatles.	of copies
Bulletins, circulars, and yearbook:						
Farmers' Bulletins	58	1,738,379	533	21, 188, 792	591	22, 927, 171
Pepartment Bulletins	108	577,800	44	83,100	152	660,900
Department Circulars	43	525,000	19	227, 500	62	752, 500
Secretary's Annual Report	1	5,000			1	5,000
Soil Surveys	31	31,000			31	31,000
Yearbook, 1920	1	20,000			1	20,000
Miscellaneous 1		881, 183	 -	2,291,555		3, 172, 738
Total	2 242	3, 778, 362	596	23, 790, 947	2 838	27, 569, 309
Statistical and information publica-						
tions:			1			
Experiment Station Record		161, 700				161, 700
Official Record 8		438, 000				438, 000
Clip Sheet	ì	307, 700				307, 700
Monthly Crop Reporter 4	l	671,700				671, 700
Market Reporter 4	ł	766,000				766,000
Monthly Weather Review 4		21, 875				21,875
Weather, Crops, and Markets 5		3, 244, 000				3, 244, 000
Public Roads 4		23,000		ļ		23,000
Weekly News Letter 4		2,666,500				2,666,500
Special Information Service		80, 500]		80,500
Journal of Agricultural Research 4		34,000				34,000
Separates, Journal of Agricultural			1			
Research		42,750				42,750
Total		8, 457, 025				8, 457, 025
Grand total		12, 235, 387		23, 790, 947		36, 026, 334

¹ Includes administrative reports and notices and unnumbered pamphlets.

Not including miscellaneous publications.

Began Jan. 4, 1922.
Discontinued.

⁵ Began Jan. 7, 1922.

Department Circulars Published During Fiscal Year.	LIST	or	New	r	armers	ы	meuns,	D	epartmer	IT	Bulle	etins,	and,
		Dep	artme	nt	Circula	rs	Publishe	ed	During	Fi	scal	Year.	

Following is a list of new Farmers' Bulletins, Department Bulletins, and Department Circulars classified by general subject matter Farm-
ers' Bulletins are indicated by F. B., Department Bulletins by D. B.,
and Department Circulars by D. C.
Alfalfa:
Utilization of Alfalfa F. B. 1229
Garden Flea Hopper in Alfalfa and Its Control D. B. 964
Animal pests:
The Relative Toxicity of Strychnine to the Rat D. B. 1023
American Moles as Agricultural Pests and as Fur Pro-
ducers F. B. 1247
Apples:
Northwestern Apple Packing Houses F. B. 1204
Accounting Records for Sampling Apples by Weight D. B. 1006
Beef cattle:
Beef Production in the Corn Belt F. B. 1218
Wintering and Summer Fattening of Steers in North
Carolina D. B. 954
Relation of Land Tenure to the Use of the Arid Graz-
ing Lands of the Southwestern States D. B. 1001
Feeding Experiment with Grade Beef Cows Raising
Calves D. B. 1024
Range and Cattle Management during Drought D. B. 1031
Effects of Winter Rations on Pasture Gains of Calves. D. B. 1042
The Alkali Disease of Live Stock in the Pecos Valley D.C. 180
Bees:
Swarm Control F. B. 1198
Beekeeping in the Clover Region F. B. 1215
Heat Production of Honey Bees in Winter D. B. 988
Occurrence of Diseases of Adult Bees D. C. 218
Birds:
Community Bird Refuges F. B. 1239
Instructions for Bird Banding D. C. 170
The Migratory Bird Treaty Act D. C. 182
The Migratory Bird Treaty Act D. C. 202
Blueberries:
Direction for Blueberry Culture D. B. 974
Bottled foods:
Volume Variations of Bottled Foods D. B. 1009
Breeding live stock:
Principles of Live Stock Breeding D. B. 905
Cabbage:
Seed Treatment and Rainfall in Relation to Control of
Cabbage Blackleg D. B. 1029
Canning:
Relation of Initial Temperature to Pressure, Vacuum,
and Temperature Changes in the Container during
Constitution of the consti

Canning Operations_____ D. B. 1022

5		
Citrus fruit:		
The Avocado: Its Insect Enemies and How to Control		
Them	F.B	1261
Control of the Argentine Ant in California Citrus		
Orchards		065
The Composition of California Lemons		_
<u> </u>		
The Red Spider of the Avocado		
Control of the Citrophilus Mealybug		
A New Feature of Bud Variation in Citrus		
Commercial Control of Citrus Scab		. 215
Some Changes in the Composition of the California		
Avocado during Growth	D.B.	1073
Corn:		
The Corn Earworm as an Enemy of Vetch	FB	1206
Inheritance of Ramose Inflorescence in Maize		
Effects of Mutilating the Seeds on the Growth and De-	10. 10.	
velopment of Corn	D D	1011
	D. D.	TOTT
Effects of Date of Seeding on Growth, Germination,		- 04 4
and Development of Corn		
Marketing Broom Corn		1019
Relation of the Character of the Endosperm to the		
Susceptibility of Dent Corn to Root Rotting	D.B.	1062
Corn oil:		
Preparation of an Edible Oil from Crude Corn Oil	D.B.	1010
Comparison of Corn Oils Obtained by Expeller and		
Benzol Extraction Methods		1054
Cotton:		
The Boll-Weevil Problem: Methods of Reducing Dam-		
2 202	בוד הדו	1000
ages		
Composition of Cotton Seed	D.B.	948
Composition of Cotton SeedA System of Accounting for Cotton Ginneries	D.B.	948
Composition of Cotton SeedA System of Accounting for Cotton GinneriesPreliminary Manufacture Tests of the Official Stand-	D.B.	948
Composition of Cotton SeedA System of Accounting for Cotton GinneriesPreliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged	D. B.	948 985
Composition of Cotton SeedA System of Accounting for Cotton GinneriesPreliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged and Stained Cotton	D. B. D. B.	948 985 990
Composition of Cotton SeedA System of Accounting for Cotton Ginneries Preliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged and Stained Cotton Water Stress Behavior of Pima Cotton, Arizona	D. B. D. B.	948 985 990
Composition of Cotton SeedA System of Accounting for Cotton GinneriesPreliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged and Stained Cotton	D. B. D. B.	948 985 990
Composition of Cotton SeedA System of Accounting for Cotton GinneriesPreliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged and Stained CottonWater Stress Behavior of Pima Cotton, Arizona	D. B. D. B. D. B.	948 985 990 1018
Composition of Cotton SeedA System of Accounting for Cotton GinneriesPreliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged and Stained CottonWater Stress Behavior of Pima Cotton, ArizonaMead Cotton: An Upland Long-Staple Variety, Replac-	D. B. D. B. D. B. D. B.	948 985 990 1018
Composition of Cotton SeedA System of Accounting for Cotton Ginneries Preliminary Manufacture Tests of the Official Standards of the United States for Color of Upland Tinged and Stained Cotton Water Stress Behavior of Pima Cotton, Arizona Mead Cotton: An Upland Long-Staple Variety, Replacing the Sea-Island	D. B. D. B. D. B. D. B. D. B.	948 985 990 1018 1030 1056
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. B. D. B. D. C.	948 985 990 1018 1030 1056 200
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. B. D. C. D. C.	948 985 990 1018 1030 1056 200 205
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. B. D. C. D. C.	948 985 990 1018 1030 1056 200 205
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. B. D. C. D. C.	948 985 990 1018 1030 1056 200 205
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. C. D. C.	948 985 990 1018 1030 1056 200 205 210
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. B. D. C. D. C.	948 985 990 1018 1030 1056 200 205 210
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. C. D. C. D. C.	948 985 990 1018 1030 1056 200 205 210
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. C. D. C. D. C.	948 985 990 1018 1030 1056 200 205 210
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. C. D. C. D. C.	948 985 990 1018 1030 1056 200 205 210 960
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. C. D. C. D. C.	948 985 990 1018 1030 1056 200 205 210 960
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. C. D. C. D. C.	948 985 990 1018 1030 1056 200 205 210 960
Composition of Cotton Seed	D. B. D. B. D. B. D. B. D. C. D. C. D. B. D. B. D. B.	948 985 990 1018 1030 1056 200 205 210 960 968

Credit—Continued.			
The Credit Association as an Agency for Rural Short-	n	Ω	30.
Time Credits	υ.	∙.	19
Crop experiments:			
Work of the Huntley Reclamation Experimental Farm in 1920	D.	C.	204
Work of the San Antonio Experiment Farm in 1919			
and 1920	D.	C.	209
Crop insurance:			
Crop Insurance: Risks, Losses, and Principles of Protection	n	TD	1049
	D.	IJ.	1036
Crop planting and harvesting dates: Seed Time and Harvest	D.	C.	188
Cucumbers:			
Nicotine Dust for Control of the Striped Cucumber	ת	C	994
	1.	٠.	<i></i>
Dairying: Farm Dairy Houses	773	~	707
Manufacture of Cow's Milk Roquefort Cheese		ь.	910
Unit Requirements for Producing Milk in Eastern Ne-		_	0=0
braska			
Relation of Production to Income from Dairy Cows	D.	в.	1068
Drugs:			
Drying Crude Drugs	F.	В.	1231
Explosives:			
Use of Explosives in Blasting Stumps	D.	C.	191
Extension work:			
Status and Results of Home Demonstration Work,			
North and West, 1920	D.	C.	178
Status and Results of County Agent Work, North and			
West, 1920			179
Extension Work among Negroes			190
Status and Results of Boys' and Girls' Club Work			
Statistics of Cooperative Extension Work, 1921-22	D.	C.	203
Farm equipment:			
Manufacture and Sale of Farm Equipment	D.	C.	212
Flowers:			
Sawflies Injurious to Rose Foliage			
The Production of the Easter Lily in Northern Climates_	D.	В.	962
Foods:	1775	_	
Milk and Its Uses in the Home			
Home Canning of Fruits and Vegetables			
A Week's Food for an Average Family	B'	в.	1228
A Study of the Factors Affecting Temperature Changes			
in the Container during the Canning of Fruits and	_		~~
Vegetables			
Food Values: How Foods Meet Body Needs	D.	ಶ.	975
Manufacture of Potato Chips	D.	は .	1055
Studies in the Clarification of Unfermented Fruit	-	.	400 -
Juices	D.	Ь.	1025

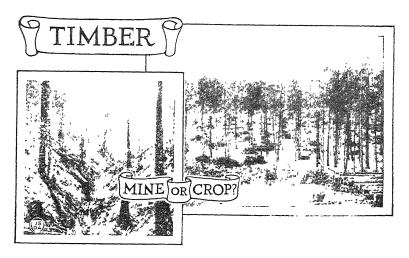
Forestry and trees:	
Measuring and Marketing Farm Timber	F B 1910
Trees for Town and City Streets	
Planting and Care of Street Trees	
Insects Injurious to Deciduous Shade Trees and Their	
ControlControl_	
Slash Pine	
Investigations of the White-Pine Blister Rust	
The Manufacture of Ethyl Alcohol from Wood Waste	
•	
Pine-Oil and Pine-Distillate Product Emulsions	
Walnut Husk Maggot	D B. 882
The Distillation of Stumpwood and Logging Waste of Western Yellow Pine	T) TP 1009
Identification of True Mahogany	
Studies of Certain Fungi of Economic Importance in	
the Decay of Building Timbers, with Special Refer-	
ence to the Factors which Favor Their Development	TO TO 1000
and Dissemination	D. B. 1053
The Chaulmoogra Tree and Some Related Species: A	
Survey Conducted in Siam, Burma, Assam, and	
Bengal	
Research Methods in Study of the Forest Environment_	
Sitka Spruce	
Curculios that Attack the Young Shoots and Fruits of	
the Walnut and the Hickory	
Important Forest Trees of the Eastern United States	
Government Forest Work	
Government Forest Work in Utah	
Handbook for Campers in the National Forests in	
California	
Treatment of Ornamental White Pine Infected with	
Blister Rust	D. C. 111
Game:	T D 1005
Game Laws for 1921	
Game as a National Resource	
Laws Relating to Fur-bearing Animals, 1921	F. B. 1238
Directory of Officials and Organizations Concerned	~ ~ ~00
with the Protection of Birds and Game, 1921	D. C. 196
Annual Report of the Governor of Alaska on the	~ ~ ~
Alaska Game Law, 1921	D. C. 225
Garden:	~ ~ ~~
Permanent Fruit and Vegetable Gardens	F. B. 1242
Grain:	
Crop Rotations and Cultural Methods at Ridgeley, N. Dak	D. B. 991
Experiments with Cereals on the Belle Fourche Experi-	
ment Farm	
The Test Weight of Grain	D. B 1065
Goats:	
The Angora Goat	F. B. 1203

Chonon		
Grapes: Insect and Fungous Enemies of the Grape	FB.	1220
Hay:		1220
Marketing Hay at Country Points	D. B.	997
The Weighing of Market Hay	D. B.	
Marketing Hay through Terminal Markets		979
Inspection and Grading of Hay		980
Home and community:		
Floors and Floor Coverings	F. B.	1219
Sewage and Sewerage of Farm Homes	F B.	1227
Chimneys and Fireplaces: How to Build Them	F. B.	1230
Red Cedar Chests as Protection against Moths	D. B. 1	1051
The Well-Planned Kitchen	D. C.	189
The Paper Dress Form		
National Influence of a Single Farm Community	D.B.	984
Horse-radish:		
The European Horse-Radish Worm	D.B.	996
Horses:		
Breeding Morgan Horses at the United States Morgan		
Horse Farm	D. C.	199
Insects:	-	~-
The Green Bug or Spring Grain Aphis		
The Chinch Bug and Its Control		223
Insects Injurious to the Mango in Florida and How to		0==
Control Them		.257
Webworms Injurious to Cereal and Forage Crops and		೧೯೦
Their Control		
A Sawfly Injurious to Young PinesStored-Grain Pests		
Life History of the Codling Moth in the Grand Valley	в, ю, т	.400
of Colorado	D B	(135
Experiment and Suggestions for the Control of the	10. 10.	004
Codling Moth in the Grand Valley of Colorado	D.B.	959
Results of Work on Blister Beetles in Kansas		
Studies on the Biology and Control of Chiggers		
Rate of Multiplication of the Hessian Fly		
Bionomics of the Chinch Bug		
Poisonous Metals on Fruits and Vegetables Sprayed		
with Poisonous Spray	D. B. 1	027
Apanteles Melanoscelus, an Imported Parasite of the		
Gipsy Moth	D. B. 1	028
The Blackhead Fireworm of the Pacific Coast	D. B. 1	032
Irrigation and drainage:		
	F. B. 1	243
Report on Drainage and Prevention of Overflow in the		
Valley of the Red River of the North		
Irrigation in Northern Colorado	D. B. 1	026
Labor:	30. 30.	0.04
Standards of Labor on the Hill Farms of Louisiana		
Labor and Material Requirements of Field Crops		
Harvest Labor Problems in the Wheat Belt, 1920	D. B. 10	U2U

Marketing:

Seed Marketing Hints for the Farmer		
Market Statistics		
Handbook of Foreign Agricultural Statistics		. 987
Methods of Conducting Cost of Production and Farm		
Organizations Studies	D. B	. 994
Prices of Farm Products in the United States	D. B	. 999
Open Types of Public Markets		
Self-Service in the Retailing of Food Products	D. B	.1044
Motor trucks:		
Motor Trucks on Eastern Farms	F. B	. 1201
Oats:		
Sterility of Oats	D. B	. 1058
Fulghum Oats	D. C	. 193
Olives:		
Olive Growing in the Southwestern United States	F. B	. 1249
Peaches:		
The Peach Borer: How to Prevent or Lessen Its Rav-		
ages	F.B	1246
Preparation of Peaches for Market		
Controlling the Curculio, Brown-Rot, and Scab in the		. 12.5.5
Peach Belt of Georgia	D C	216
Pears:	D. C	1.0
The Handling, Shipping, and Cold Storage of Bartlett		
Pears in the Pacific Coast States	ם ת	1073
Peas:	р. Б	. 1012
Seed Peas for the Canner	T D	1959
The Production of Peas for Canning		
Pigeons:	r. D	. Iiigo
Eradication of Lice on Pigeons	D C	919
Pineapples:	<i>D</i> . C	. 10
Pineapple Culture in Florida	מי ים	1997
Potatoes:	r. D	. 1201
The Potato Leafhapper and Its Control	מים	1005
Development of Tubers in the Potato		
Fusarium Tuber Rot of Potatoes		
Late-Blight Tuber Rot of Potato Tubers	D. C	. 220
Pecan: Pecan Rosette, Its Histology, Cytology, and Relation to		
, 20, 2	T) D	1000
Other Chlorotic Diseases	ם .ע	. 1055
Poultry: Tuberculosis of Fowls	מים	4000
	г. о	. Lainj
Standard Varieties of Chickens. IV. The Ornamental	TO TO	4004
Breeds and Varieties	r. B	. 1221
Standard Varieties of Chickens. V. The Bantam	773 773	
Breeds and Varieties		
Rations for Feeding Poultry in the Packing Houses	D. B	. 1052
Rice:	-	
Straighthead of Rice and Its Control	F. B	. 1212
Roads:		
Standard and Tentative Method of Sampling and Test-		
ing Highway Materials	D. P	. 949

Sheep:			
Judging Sheep			
Flushing and other Means of Increasing Lamb Yield	D.	В.	996
Soils:			
Gullies: How to Control and Reclaim Them	\mathbf{F} .	В.	1234
Green Manuring		В.	1250
Soils of Eastern Virginia and Their Uses for Truck			
Crop Production	D.	В.	1005
Sorghum:			
Cultural Experiments with Grain Sorghums in the			
Texas Panhandle	D. 3	B.	976
Sudan grass:			
Sudan Grass and Related Plants	D. 3	B.	981
Sugar beets:			
The Sugar Beet Nematode in the Western States	F.	B.	1248
Cost of Producing Sugar Beets in Utah and Idaho			
The Beet Sugar Industry in the United States, 1920			
Sunflowers:			
The Sunflower as a Silage Crop	D . 1	В.	1045
Sweet Clover:			
Annual White Sweet Clover and Strains of the Bi-			
ennial Form	D.	C.	169
Sweet potatoes:		•	
Utilization of Flue-Heated Tobacco Barns for Sweet			
Potato Storage	Tr. 7	R	1267
Sweet Potato Storage Studies			
Eradication of the Sweet Potato Weevil in Florida			
Tick eradication:		.	201
State Laws and Court Decisions Relating to Cattle			
Tick Eradication	n a	ď	184
Tomatoes:	<i>~</i> .	.	101
Tomatoes for Canning and Manufacturing	Er 1	R ·	1222
Development of Wilt-Resistant Tomatoes			
Phoma Rot of Tomatoes			
Tractors:	υ. (٠.	21.0
Cost and Utilization of Power on Farms Where Trac-			
tors are Owned	ר מ	R	997
Weeds and poisonous plants:	٠. ١	٠,	001
Western Sneezeweed as a Poisonous Plant	ו מ	R	947
The Mexican Whorled Milkweed as a Poisonous Plant_			
The Death Camas Species as Poisonous Plants			
Progress of Barberry Eradication			
Wheat:	J (J.	100
Wheat Scab and Its Control	Tr T	R -	1994
Take-All of Wheat and Its Control			
Influence of Relative Humidity and Moisture Content		٠, .	ال سرير
of Wheat on Milling Yields and the Moisture Con-	•		
tent of Flour	nı	· ·	erni
Rust Resistance in Winter Wheat Varieties			
Kanred Wheat			
AND	J. (J.	794



By W. B. Greeley, Earle H. Clapp, Herbert A. Smith, Raphael Zon, W. N. Sparhawk, Ward Shepard, and J. Kittredge, Jr., Forest Service.

Two National Problems: Land Use and Timber Supply.

N^{EARLY} half the land area of the United States, some 822 million acres, was originally forested.¹ The extent of this forest and its principal regions are shown in Figure 1. The stand, mainly of high-grade material, probably far exceeded in volume the estimate of 5,200 billion feet board measure made some years ago.

American standards of living and much of our industry have been developed upon timber supplies so abundant and cheap that the United States to-day is the largest consumer of wood in the world. We now use nearly half the lumber, more than half the paper, and about two-fifths the wood in all forms. We produce from two-thirds to three-fourths of

In the report on Scnate Resolution 311, "Timber Depletion, Lumber Prices, Lumber Exports, and Concentration of Timber Ownership" (1920), the Forest Service reported the main facts then known concerning the original and present forest areas, stands, regional distribution and consumption of timber, and related matters. The present article is based on essentially the same data, in so far as forest areas and volume of standing timber are concerned, though some minor corrections have been made in the areas reported for certain regions. These corrections add, in all, 7 million acres to the area of forest land. No attempt has been made to obtain new figures which would show the effect of lumbering, fire, and other causes that reduce the virgin forest area or convert growing forests into idle forest lands. The figures now given other than those for areas and amounts of standing timber embody new data.

84

the naval stores. The timber to supply our demands has been mined from the forest much as coal has been mined from the ground.

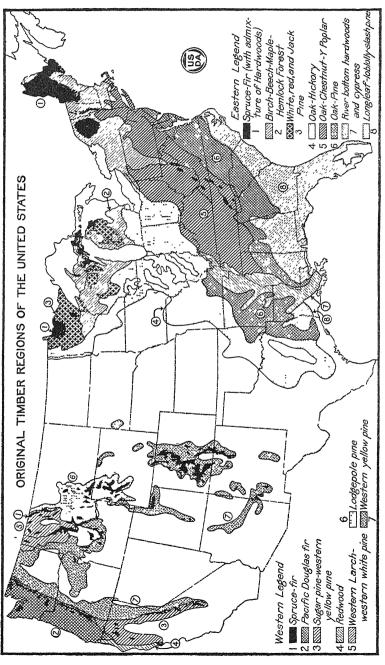
Timber Mining.

Largely through timber mining the original stand has been reduced from more than 5,200 billion board feet to approximately 1,600 billion feet of virgin timber and 600 billion feet additional in culled and second-growth stands. Seventy-five per cent of the remaining virgin timber is west of the Great Plains, and more than 50 per cent of all our remaining saw timber is in the three Pacific Coast States, while nearly half of the lumber cut is consumed in the region east of the Mississippi and north of the Ohio and Potomac Rivers. Lumber producing and consuming centers are so far apart that we pay \$250,000,000 annually in lumber freight. Seventy-five per cent of our lumber cut and fully 90 per cent of the product of high quality is still taken from virgin stands. Thirty-eight thousand four hundred forest fires, the invariable accompaniment of timber mining, burned over more than 8 million acres in 1921. Depletion and higher prices have reduced the drain on our forests, but the amount taken is still four times replacement by growth. The volume of the original and present forests in the East and West is shown in Figure 2 and the volume of our present forests by States in Figure 3.

Timber mining is, therefore, responsible for a great reduction in our timber supplies. With accompanying forest fires, it is also responsible in part for a great reduction in the area of our forest lands. The original forest of 822 million acres has been reduced to 138 million acres of virgin forest, 250 million acres additional of comparatively inferior culled and second growth, and 81 million acres of unproductive land, a total of slightly less than 470 million acres. Comparative areas of original and present virgin forests in the East and West are shown in Figure 4 and the present area of forest lands by States in Figure 5.

Land Clearing.

Another important factor in reducing our area of forest land has been the clearing of land for agriculture. The first necessity of the early settlers was to clear land to produce food. By 1880 about 150 million acres, or 22 per cent of



Of our present forest land the East Fig. 1.—The original eastern forests formed 83 per cent and the western 17 per cent of the total. Of our present forest land has 75 per cent of the remaining saw timber supply.

the original eastern forest, had been cleared for farms and the great bulk of the timber destroyed because there was no market. From then on destruction of timber in land clearing practically disappeared.

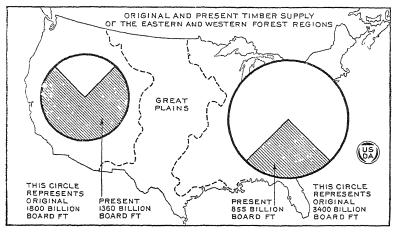


Fig. 2.—Our timber supply, in reality probably far greater originally than the 5,200 billion feet shown in this figure, is now reduced to about 2.200 billion feet.

In addition to the 150 million acres of timber cut and destroyed, about 50 million acres of forested land in the Eastern States have been cut over primarily to clear agricultural land but without wasting the timber. In the West little land has been cleared for farming ahead of the lumberman. Thus agriculture has been the primary motive for clearing about 200 million acres, or 24 per cent, of our original forest area.

Land Not Taken by Agriculture.

While before 1880 land clearing for agriculture outstripped lumbering, a greater and greater demand for timber has since caused land to be logged off much more rapidly than it was taken up by agriculture. Although many of these lands have been on the market and have been pressed for sale, settlement on them is practically at a standstill. Agricultural settlement in recent years has been almost wholly confined to the semiarid, nonforested lands in the Great Plains and Rocky Mountain regions. Thus Michigan, which has 15½ million acres of cut-over lands, showed the

insignificant increase in improved farm land of only 93,000 acres from 1910 to 1920; but the western open country, even though semiarid, added 29 million acres. The rate of land improvement fell off 62 per cent in Wisconsin between 1900 and 1920. Wisconsin now has more cut-over and idle land than ever before—some 13 million acres—more than all the improved farm land in the State. There are in the Lake States alone from 25 to 30 million acres of cut-over land, and the area is continually augmenting.

In Michigan, at the average rate of settlement for the last 20 years, 380 years would be required to settle the present area of cut-over land and the remaining timberland that will soon be cut over. In the Upper Peninsula 800 years would be required, in the northern part of the Lower Peninsula 200 years, and in the southern part of the Lower Peninsula 1,700 years. In Minnesota, at the rate of clearing and settlement of the past 40 years, it would take nearly a century to absorb into farms even the best part of the land now idle.

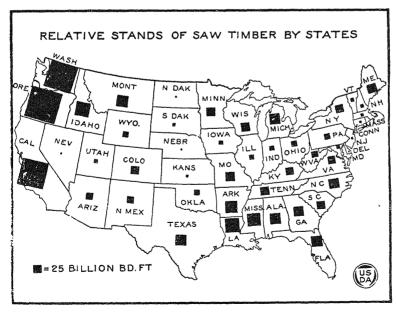


Fig. 3.—Most of our standing timber is in the South and West. The Middle Western and Northeastern States, though our largest consumers of timber, are far from producing the timber they use.

In the decade 1900-1910 improved farm land increased at the rate of 6.4 million acres annually, and cut-over land at the rate of 9.4 million acres; in the decade 1910-1920 the rates were 2.5 million and 10 million acres, respectively. At

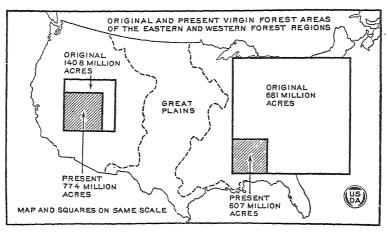


Fig. 4.—Only a remnant of the original Eastern forest remains, and nearly half of the virgin forests of the West have gone.

present approximately 1 million acres annually of improved land derived is from cut-over forest land.

This million acres is barely enough to offset the area of abandoned farm lands in the East that revert each year to forest. The forest area of New England is now 13 per cent larger than 60 years ago. Similarly in the southeastern pineries the area taken up for new agricultural use is probably offset by the abandoned fields that revert each year to forest. The 1920 census shows that the area of improved farm land in the eastern United States, where the bulk of the cut-over land is found, did not increase in the last decade. In some States not only the improved land but even the total farm land decreased.

The tradition that all cut or burned over forest land or even the greater part of it is being taken by agriculture is not borne out by the facts. The total area of forest lands already cut or burned over, exclusive of farm wood lots, that has not been taken for agricultural use, has already grown to 181 million acres. Furthermore, our forest land is being cut over at the rate of about 10 million acres yearly, and probably more than half this area is in virgin forest.

The Problems of Land Use and Timber Supply.

The depletion of our timber supplies and the reduction of our forest area largely through timber mining has created one national problem, that of providing the timber necessary to meet our future requirements.

Inability to utilize cut or burned-over forest lands for agriculture has created a second and related national problem—that of land use.

The Land Use Problem.

The Problem Stated.

The American people have commonly believed that all our arable lands are agricultural, virtually regardless of soil, topography, location, or climate. We are only now beginning to understand what the facts in the preceding section indicate, that this belief rests on a serious misconception.

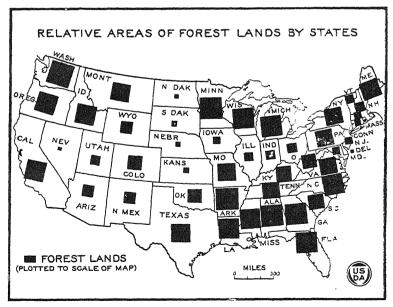


Fig. 5.—Though the original forests have largely disappeared, we still have plenty of forest land, if rightly used, to grow the timber we need; and the most of this land is in the East, where timber is most needed.

Agricultural economists are coming to the conviction that the future tendency in farming will be toward more and more intensive cultivation of the better lands, with higher production and relatively lower costs. The lands upon which the margin of profit will be very small or uncertain because of poor soil, climate, topography, or location will tend to pass out of cultivation. This will be all the more true of soils which can be made to yield materially higher returns from other forms of use.

American energy and resourcefulness during a period of 300 years of ceaseless effort have improved a little more than 500 million acres of farm land, less than 35 million acres in excess of our forest land, shrunken though it is.

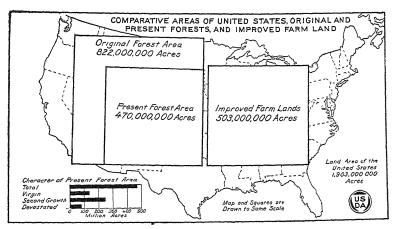


Fig. 6.—Forests once covered 43 per cent of our total land area of 1,903 million acres, but timber mining and land clearing have reduced them to 25 per cent of the total area. Our remaining forest land still nearly equals our improved farm land in extent.

(Fig. 6.) In comparison with the total area of 365 million acres used for all crops in 1919, the problem of utilizing continuously and effectively 470 million acres of forest land looms very large. The land problem is, therefore, to bring into use this area of forest land which is not being absorbed for agriculture.

The Land Available.

Our present 469,5 million acres of forest land is made up as follows:

Virgin forest	Acres 138, 100, 000
Cut-over and burned-over forest:	
Second growth of saw timber size 113, 800, 000	
Second growth of cordwood size 136, 400, 000	
Nonrestocking 81, 200, 000	
	331, 400, 000
Total	469, 500, 000

Will our future needs for agricultural land bring about a reduction of this forest area? In the Yearbook of the United States Department of Agriculture for 1921 ("A graphic summary of American agriculture," p. 430) a table is given showing the present and potential land utilization of the United States on the basis solely of the physical character of the land. This table classifies as potential improved land 800 million acres; as unimproved pasture and range land, 658 million acres; ² and nonagricultural land, ³ 90 million acres.

The actual division at any given time, however, will be determined not only by the physical conditions but also, and very largely, by economic conditions. Dr. L. C. Gray, of the Bureau of Agricultural Economics, has furnished a prognostication that takes these conditions into account. He estimates that with crop yields at the present rate, a population of 150 million having a per capita consumption equal to the present in kind and quantity would require 102 million acres more under crops than at present, and 155 million more in pasture. This would bring the total improved farm land needed to feed our own population in 1950 close to the 800 million acres shown above as the limit of possible development.

Such an increase, however, is not forecast by Doctor Gray. Instead, he holds there will be a more intensive use of the better land—just as during the last 30 years. At the same time a readjustment of the national diet will lower per capita agricultural land requirements. Altogether, the

² Including piñon juniper, scrub oak, mesquite, and chaparral.

³ Including desert land, cities and villages, public roads, and railroad rights of way. A small part of the desert may be irrigated and thus reduce the area of nonagricultural land. With the growth of population, however, the area under cities and villages, public roads, and railroad rights of way is bound to increase, with the result that the area of nonagricultural land will in the future become larger than at present.

mid-century population of 150 million will probably require an increase in improved farm area, according to Doctor Gray, of not more than about 58 million acres, comprising about 35 million acres in crop lands and 23 million acres in humid pasture.

Where will this increase come from? Some will come from desert land and semiarid pasture through irrigation, some from reclaiming wet lands, and some from forest land, either cut over or now in standing timber. Of the latter a considerable part will presumably come from the 168 million 4 acres now in farm wood lots. Three-fifths of this (100 million acres) is now being used also as pasture. It is only natural to expect that as additional agricultural land is needed, either for crops or for pasture, the proportion of such land on the farms will increase at the expense of the unimproved land. The census figures show a reduction in the area of wood lots in farms of nearly 22 million acres during the last decade. To a large extent this decrease is undoubtedly due to a general decrease in farm land, particularly in the Northeast, where most of the wood lots are found. Some of it is due to a change in the census specifications of the character of lands to be included under this designation. Partly, however, it is due also to the clearing of wood lots on the farms.

This decrease in farm wood lots is offset to some extent by the abandonment of old fields which revert to forest. Undoubtedly there will be further abandonment of the poorer farm lands, and some land will be added to the forest area by planting. On the whole, considering solely the agricultural needs of the country, the total potential forest area may be reduced at most to about 400 million acres.

There is room for doubt, however, whether there will be any considerable reduction from the present forest-land area. Agricultural crops will, of course, have undisputed claim to the more productive lands, and this will bring about the displacement of a good deal of forest now growing on fertile bottom and valley lands. On the other hand, the very

⁴ This includes some piñon juniper and other woodland which is not included in the total area of farm land. Without such woodland the Forest Service estimates the area of wood lots in farm at 150 million acres.

addition of such lands to the cultivated area will tend to increase the reversion to forest of farm lands that yield relatively small returns on labor and capital investment. The great bulk of the present forest land of the United States, particularly that in the mountainous and hilly sections of the country, could be made to produce agricultural crops only at high or excessive costs. It would require the pressure of a very dense population living under severe conditions to bring this about.

Whether land of relatively low agricultural value will be devoted to agriculture will in general be determined by the relative need for food and timber. Unquestionably there will be a shifting of forest land into agricultural use in some regions and localities and the opposite tendency in others. The area under each form of use is gradually being determined by the play of economic forces operating to effect a rough classification by the method of trial and error. The final area may be slightly less or more than our present area of 470 million acres. This area, however, may be taken as a fairly close approximation of profitable use for idle lands.

The Menace of Idle Forest Lands.

The first and most obvious effect of declining timber supplies and of idle forest lands in any State is the effect on the lumber industry. Sawmills are dismantled, and labor lacks employment. In consequence population falls off and communities melt away. Lumber and other forest products must be brought into the State, frequently from distant regions, so that other industries suffer, and some follow the lumber industry to new sources of supply.

Pennsylvania and Michigan furnish striking examples. In 1860 Pennsylvania, then heavily timbered, stood first in lumber production. By 1870 the lead had passed to Michigan, but the production in Pennsylvania continued to increase until as late as 1900. Since then it has fallen rapidly; in 1921 it was less than one-fourth the maximum; and per capita production fell from 420 board feet in 1890 to less than 60 in 1921.

Lumber consumption in Pennsylvania exceeded the cut for the first time between 1890 and 1900, and has since held substantially without change. The State now imports approximately 80 per cent of the lumber used. The southeastern portion of the State, including the highly developed manufacturing district of Philadelphia, now imports practically all of its lumber. Except for a small quantity of low-grade material this is also true of the Lehigh Valley. The western part of the State is a large importer, the city of Pittsburgh alone using more lumber than the entire State produces. The yearly freight bill on lumber imported into Pennsylvania is now not less than \$20,000,000.

The Pennsylvania railroads have to bring in most of their lumber and more than half of their ties from the South and the far West. The two coal regions are practically destitute of usable wood, and form a part of the so-called "Pennsylvania desert" caused by logging and fires. The country far and near is combed for mine timber. One large company obtains its props from Virginia, Pennsylvania, Maryland, Delaware, and North Carolina, named in order of the quantities they supply; its construction timber from Louisiana, Alabama, and Mississippi; and its ties, lagging, and short oak timbers from Pennsylvania. Yellow pine from the South constituted 75 per cent of the total lumber consumption of this mine in 1920.

Pennsylvania, with 17 pulp mills, ranks fifth in the United States in pulp production. Only one of these mills operates entirely on Pennsylvania wood, and all but two more import all of their wood. Seventy-four per cent of the pulp wood used in the State is brought from Ontario, Quebec, West Virginia, Maryland, Virginia, North Carolina, and Michigan. One company is relogging old hemlock operations for tops, stumps, and old logs. Because of their much heavier plant investment pulp and paper mills can not be shifted as readily as sawmills to follow the retreating forests; but rising transportation costs make competition with outside mills increasingly difficult.

In this respect the Pennsylvania situation is paralleled throughout the Northeast. Even Maine, New Hampshire, New York, and Michigan have to get part of their pulp wood from Canada, whence now comes one-fifth of all the pulp wood used in this country. In addition, one-fifth of the wood pulp and large quantities of paper are imported. Transportation costs on Canadian pulp wood imported in 1921 were nearly \$11,000,000. The average cost of wood at the mills has quadrupled in 20 years. The pulp and paper industry of the northeastern United States represents an investment of nearly \$1,000,000,000. Its permanence is jeopardized by retreating supplies, due to idle lands.

Pennsylvania formerly had an important hemlock tanning industry. In 1871 Wayne County, with 19 tanneries, exceeded any other county in the United States in the value of its tanning products (\$3,000,000). In 1885 but five tan-

MICHIGAN'S LUMBER CUT AND CONSUMPTION.

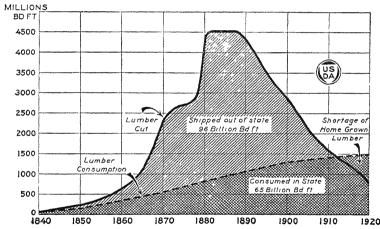


Fig. 7.—After exporting 96 billion board feet of lumber between 1850 and 1912, Michigan can no longer supply its own needs.

neries were in operation, and about 1905 the last of these closed down. Of the few hemlock tanneries left in the entire State, none, it is said, can operate more than five years.

The history of Michigan's lumber industry parallels that of Pennsylvania. The relation of cut and consumption is shown in Figure 7. Michigan exported nearly 100 billion board feet of lumber between 1850 and 1910, but in 1920 imported 1 billion board feet. The sources of these imports, on which the people and industries of the State paid a freight bill of approximately \$15,000,000, are shown in Figure 8. There has been a constant shifting of local forest industries as the forests have been cut.

Hardwood timber in Michigan seems to have been first exploited by the cooperage plants. Woodenware plants followed as early as 1885. The handle industry developed later, and utilized the raw material more closely than either cooperage or woodenware plants. Twenty to thirty years ago cooperage, woodenware, and handle plants were scattered pretty generally over the southern peninsula. When the sawmills had cut out they moved on to new locations. Wood-distillation plants often cleaned up the smaller timber and the tops and limbs. Forest fires did as much as if not more than all other agencies combined to make the destruction complete.

A few specific examples will illustrate the menace of shortlived, shifting industries. A large woodenware plant was

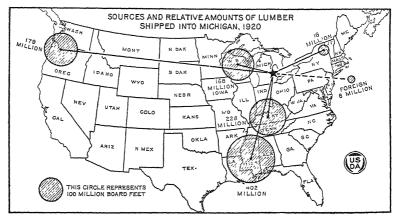


Fig. 8—The "inexhaustible" forests of Michigan, mined during the 70's, 80's, and 90's, are now so depleted that the imports from the East, South, and far West are over a billion board feet of lumber a year. On this imported lumber the State pays an annual freight bill of \$15,000,000. (Center of circle represents center of general region drawn on for timber.)

established in a Michigan county in 1885 because of its excellent hardwood. It employed about 100 men, who had permanent residence in the town where the plant was located. Although it used about a million feet of timber annually, it had never safeguarded its timber supplies, and the tributary timber was purchased about 1900 for manufacture into lumber. The sawmill, which employed 25 men, cut the timber in 13 years and moved on. The remaining small timber and woods waste was sold to a distillation plant. Forest fires destroyed young growth over large areas, and the water-

supply system of the town is said to have been seriously impaired because of the destruction of the forest cover. The population was 1.157 in 1900, but in 1920 had fallen to 624. Another town was established between 20 and 30 years ago around a woodenware plant, a handle plant, a cooperage industry, and a sawmill. All have gone with the exhaustion of the timber and have taken with them for investment elsewhere profits estimated by a local banker at about \$500,000.

The furniture industry became of first importance in a Michigan city as early as 1867, because of the large stands of excellent hardwood in the vicinity. As cutting progressed the furniture plants were compelled to ship their lumber from increasingly distant points in the northern portion of the State, and in later years from still greater distances in the South. Factories turning out high-grade and therefore expensive furniture have been able to absorb the increased cost of raw material by adding it to the price of the furniture. Higher-priced raw material was, however, a more serious matter to factories turning out low-priced furniture, and a number have moved to the southern hardwood region.

The departure of local industries such as those described takes much in addition to the enterprises themselves. It removes opportunity for the employment of labor, cuts heavily into local markets for the farmer, and likewise cuts down the trade of local merchants. In the long run, shifting and temporary industries result in the economic and social demoralization of the communities and regions which they once made prosperous.

Naturally the leaders in such communities and towns struggle against the inevitable. This has happened in many towns in Michigan as elsewhere. One of them was formerly surrounded by one of the finest stands of pine and hardwood in Michigan. During the last 15 or 20 years the board of trade has made strenuous efforts to secure other industries, as one wood-using plant after another has had to suspend. A building large enough to house several factories was erected and free space offered as an inducement. The principal industry secured was a woodenware plant. This in a few years had used all the remaining accessible timber and was forced to migrate. The factory building put up at the expense of local business men remained empty; the effort to

attract permanent industries had failed. It failed because no one had recognized the menace of idle forest lands.

The forest and wood using industries of many other States are suffering similar effects from idle forest lands. Twentyeight States, of which 22 were largely or altogether forested. import from 10 to more than 95 per cent of the lumber they consume, while of the 20 States whose production exceeds consumption the excess is in only 4 greater than 1 billion board feet a year and in only 5 between 500 million and 1 billion feet. More than half of all the lumber cut in the United States in 1920 came from the three Pacific Coast States and the three that fringe the Gulf of Mexico west of Alabama. In 1920 the per capita consumption of lumber in Massachusetts was 225 board feet, the cut 36 feet, and the growth 17 feet. Connecticut consumed 208 feet, cut 52, and grew less than 40. New York cut 425 board feet per capita in 1850, but only 40 in 1920, when consumption was five times the cut and the replacement was only 30 feet. Ohio grows less than 25 feet, but the 1920 cut was 43 feet and the consumption 245. Illinois, the second largest consuming State, cut 10 board feet, but consumed 375; and growth is little if any more than the cut.

Idle forest lands seriously affect transportation facilities. In Michigan a branch of an important railway system was built primarily for timber traffic. The timber was cut in a few years and passenger service on the branch was dis-The total incoming freight carried in 1914 on continued. the 14-mile stretch at the far end of the branch was 99 tons. and the outgoing 3,363. The State railroad commission authorized the railroad to take up its rails the following year, citing in effect the following reasons: Former settlements and industries no longer exist; no one except farmers living in specified districts are being served; there is no reasonable prospect of future increase in traffic sufficient to produce revenue to pay expenses. The population of the township at the end of the branch was 47 per cent less in 1920 than in 1900 and 6 per cent less than in 1890, before the road was built.

This condition is by no means confined to a single road. On another in 1900, about a decade after its incorporation, 98 per cent of the freight of more than 230,000 tons originating on its line consisted of forest products. In 1915 they furnished less than 40,000 tons out of a total of about 165,000 tons originating on the line. Fairly good agricultural development seemed to be taking place in some localities. But after passing through several reorganizations the road ceased to operate in 1919 or 1920. The petition to the court to dismantle the road states, in part:

The country tributary thereto is wholly unable to sustain a railway, * * * for many years the principal revenues of the road were derived from the hauling of logs and lumber. The timber along the line of the road has been almost entirely cut, and the revenues from this source have grown much smaller and are now of comparatively little consequence. * * * The lands adjacent to the line of the road are agriculturally poor and unproductive, the quantities of grain, hay, and other agricultural products to be drawn over the railway being insufficient to make the road sustaining. ! * * No prospects that the conditions or volume of business * * * will improve.

These are merely a few examples of what is happening in a part of Michigan from which the virgin forests have been mined. When because of falling traffic railroad service is reduced or discontinued entirely, all other industries, all trade, all the inhabitants of the region, whether in the country districts or the towns, suffer from the effect. Idle forest lands also result in a reduction of property available for taxation and an increased burden of taxation on other property. The effect of timber depletion upon assessed valuations in Michigan is partly obscured by the very low valuations of timber while it remained and by the rapidly rising assessments of all taxable property throughout the State. But in the agricultural portions of the State the rise in total assessed property valuations has been considerably more rapid than in the portions containing large areas of denuded timberland.

Considerable good hardwood timber still remains in three townships of a county with tax rates of \$31.85, \$27.83, and \$34.62, respectively. Four of the most completely denuded towns had tax rates in 1920 of \$45.14, \$47.58, \$45.45, and \$41.76. High tax rates, together with the loss of markets, have undoubtedly had much to do with the fact that in 1921 this county had 322 abandoned farms. The

population of the county decreased over 30 per cent between 1900 and 1920. Eight agricultural counties without large cities or manufacturing industries had in 1892 tax rates ranging from \$8.16 to \$16.47, and averaging \$12.02, while eight other counties originally timbered but then partly cut over had tax rates ranging from \$21.04 to \$69.51, and averaging \$28.74. In 1901 the average rates were \$14.08 for the agricultural counties and \$35.40 for the nonagricultural counties, which had then been largely denuded; in 1910, \$15.86 and \$34.55; and in 1919, \$22.13 and \$35.41, respectively. The heavier burden of taxation rests upon the population and industries of the depleted regions, which are much less able to carry it.

The drag of idle lands extends beyond the country districts. Six representative cities in the rich agricultural portions of southern Michigan had tax rates in 1919 ranging from \$22.88 to \$28.90 and averaging \$25.85. Nineteen representative cities in the depleted territory for the same year had tax rates ranging from \$31.79 to \$78.59 and averaging \$48.21. The excessive taxation burden for the towns in the cut-over territory was due, in part at least, to obligations undertaken while they were thriving centers of forest industries.

Idle land increases the tax obligations throughout the State. The State tax levied in 1919–20 on nine Michigan counties, all of which are cut over and largely denuded, was \$256,793. Some of the counties failed to pay a considerable part of their quota, but the nine counties drew from the State school fund alone \$295,020, or \$38,227 more than the entire levy for State expenditures. Nine other counties, all cut over, got back within 10 per cent as much school money as they paid in State taxes. The deforested counties received additional amounts from the State in road funds.

That depopulation follows timber mining and constitutes another form of the idle-land menace is fairly obvious in the light of what has already been brought out. In all forest regions scattered areas of truly agricultural land ordinarily occur. Higher tax rates, poor transportation, dwindling markets, all handicap the farmer who has located on this land, and many farms are abandoned in consequence. There is a striking contrast between the popula-

tion changes that are taking place in the southern counties of Michigan and those taking place farther north.

For various reasons, one of which is that through increased efficiency fewer people are required to produce the same crops, many agricultural districts in the United States have decreased slightly in population during recent decades. In most of these regions, however, the increase in population in the towns more than offsets the loss in the country. Seventeen out of 37 of the southern counties of Michigan, for example, lost population between 1910 and 1920, but the region as a whole gained 900,000 people, including 255,000 outside of Wayne County, in which Detroit is situated.

Counties within the cut-over portion of the Lower Peninsula, however, are losing population in both the rural districts and the towns. Of 31 counties 25 had less population in 1920 than in 1910, and the whole region lost 50,000 people, or 12 per cent. The only places of 5,000 or more in northern Michigan to gain during the decade were two depending upon mining and one a forest industry town whose plants still have a few years' operation left. Every place with over 5,000 population in the southern agricultural and industrial portion of the State, 27 in all, gained during the decade.

Some of the most striking examples, however, of the menace of idle forest lands as measured by depopulation are found in the rural townships. A few examples will be given in addition to those already mentioned. None of those selected have towns exceeding 5,000. Losses in population have followed the decline of forest industries operated upon the plan of timber mining rather than the production of timber crops.

One township had 177 people in 1890. Between 1890 and 1910 its extensive pine forests were cut and sawed at a thriving town with several sawmills. In 1900 it had 1,927 inhabitants; in 1920, 568. The only railroad was taken out after the pine was gone. The township can not hope to retain even its present population if its lands remain idle.

Another township had 2,042 people in 1900. It had a very large hardwood chemical plant, besides a smelting plant for charcoal and iron. The plants closed after the hardwood supplies were exhausted, and in 1920 the population had

fallen to 780. Two townships with hardwood lumbering operations supported in 1910 a population of 1,064. Except for a few scattered forties, the hardwood is now gone; and the population in 1920 was 588.

Pennsylvania forest towns have had the same history. One, the State forest commissioner reports, grew up about a sawmill and a large tannery which began operations about 1890. At its heyday, about 1910, the town contained over 100 houses, also stores, town hall, church, and school. A logging spur and well-kept county road afforded an outlet to a main-line railroad. The State forestry department was forced to build a station in 1914 for a forest ranger because there was no vacant house in town. The tannery ceased operations and the sawmill, the only other industry, followed in 1920. The town site, houses, stores, school, and church were then sold for about \$5,000. Buildings are being torn down and in a short time only the forest ranger will be left, whose purpose will be to replace the forests which created the town and were its sole support.

Examples could be multiplied, but enough have been given to show beyond the shadow of a doubt the menace upon population of both towns and country districts of idle forest lands. Many of the people who left would, with any future hope, have preferred to stay, because leaving undoubtedly meant hardships and beginning life anew. To many leaving meant little short of disaster.

To stay meant disaster, too—slow disaster of the kind that has overtaken many thousands in every forest region from which the timber resource has been exhausted. Those who cling to their homes are left to struggle impotently against rural decadence. The chief support of the economic life of their communities removed, social life also disintegrates. Capital and industry have flown away, and with them paying work. Stores close, farm products lack a local market, neighbors leave, churches and schools are emptied, property values shrink, roads are no longer kept up. Even with heavy taxation the public expenditures necessary to maintain the life of the community on a high level can no longer be made. Isolated, poor, and without much hope or incentive to effort, the scattered remnant of population sinks backward from all that makes life worth living. Such con-

ditions breed illiteracy and thriftlessness, and furnish insane asylums and penal institutions with an undue proportion of their inmates.

Idle forest lands, far from being neutral, therefore aggravate our problem of land use by their evil effects upon the forest and wood-using industries, upon transportation, upon taxation, and upon population. No region or State, much less the country, can afford to let them remain idle if a profitable use for them can be found.

Continuous Use of Forest Land Necessary to Permanent Prosperity.

In contrast with the menace of idle forest lands, continuous use will afford permanent development and prosperity for local communities and regions. Not least among the benefits which standing forests and forest industries afford to any State or region is wealth for taxation. The present system of timber taxation is unquestionably imperfect, but any future modifications must recognize the basic need for a fair contribution to the public revenue.

In the State of Washington the best data obtainable indicate an assessed valuation on timberlands of about \$100,-000,000, and on the lumber industry, aside from timber, of about \$50,000,000, a total of \$150,000,000 out of a grand total for all property in 1920 of about \$1,195,000,000. The total for timber and the lumber industry was under the total amount for improved agricultural land in the State by about one-fourth. The taxes on timberland alone made up about 8 per cent of the total levied for 1921 for all purposes, and on other property invested in lumber manufacture about 3 per cent, making a total of approximately 11 per cent, or in excess of \$7,000,000. In some of the heavily timbered western counties the contribution of timberlands alone reaches 50 per cent of the total taxes. Additional taxes are paid by dependent wood-using industries and by the large number of people whose livelihood depends directly and indirectly upon the forests.

Similar conditions obtain in Oregon, where the remaining timber stand is even larger. The assessed valuation of taxable forest lands is about \$141,000,000, and that of other

property used in the lumber industry about \$40,000,000, making a total of approximately \$180,000,000. Timberland pays a tax of approximately \$5,640,000, and other property used in the lumber industry \$1,600,000, a total of \$7,240,000, or in the neighborhood of 18 per cent of the total taxes of \$41,117,367 levied in 1921 for all purposes. Outside of cities and towns it is estimated that the lumber industry pays a third of the taxes in the State. In some of the more heavily timbered counties the percentage runs even higher, and in Clatsop County, for example, the lumber industry pays over-60 per cent of the county taxes. In several other counties standing timber pays approximately half their taxes.

In 1920 the lumber industry in Washington and Oregon paid in taxes about \$1.60 for each thousand feet board measure of lumber cut. The cut was nearly 9 billion board feet, but under intensive forestry it would be possible to grow and harvest 16 billion board feet or more per year, or nearly twice the 1920 cut. This means an enormous taxable resource which can be made permanent.

A few examples from widely separated regions serve to illustrate the contrast from the standpoint of public revenues between timbered lands and near-by denuded lands of similar character. The average assessment in the western part of the State of Washington on standing timber is in the neighborhood of \$26 per acre, on logged-off lands \$9.32. One timbered section assessed at approximately \$80 per acre adjoins a cut-over section assessed at \$2.50 per acre. New Jersey the State forest park commissioner estimated that a forest area of 2,000,000 acres was assessed at \$4,000,000, but under timber-crop production might be made to return taxes on an assessed valuation of \$200,000,000. The average assessed value of standing pine timber in Louisiana in 1920 was estimated at about \$42.50 per acre; of cut-over lands, at \$5.25. In Mississippi it is reported that cut-over land is assessed at \$3 to \$4 an acre, while standing pine timber is assessed at \$6 to \$8 per thousand feet, with stands running from 6,000 to 10,000 feet per acre—an equivalent to from \$36 to \$80 per acre assessed value.

In New Hampshire the contrast is between the tax value of denuded land and second growth. Cut-over timberland, if fairly well located, is generally assessed at about \$4 an acre; on the sides of mountains assessments go as low as \$1

an acre. A 40-acre tract of second-growth pine saw timber about 50 years old, containing 750,000 feet board measure, is assessed at \$6,000. On a \$4 valuation this land would pay a little under 10 cents per acre in taxes if cut over; it now pays \$3.66, or over 36 times as much. In central New Hampshire softwood stands generally vary from 10,000 to 60,000 or even 70,000 feet to the acre, worth, if within 3 or 4 miles of railroad or water transportation, from \$8 to \$10 or more a thousand feet. At these amounts the taxable values of the timber would be anywhere from \$80 to \$700 per acre. In one of the unorganized towns in New Hampshire there are 6,000 acres of spruce and 11,000 acres of cut-over land. The latter pays about 8 cents per acre taxes, the former about \$1.40, or $17\frac{1}{2}$ times as much.

Again, abundant standing timber affords large employment to labor. In 1919 the Industrial Insurance Commission of Washington reported that the lumber industry paid 40 per cent of the total pay roll of the State for hazardous occupations, aggregating \$227,995,862.25. It is estimated that in excess of 15,000 men were required by the railroads to handle the lumber output of Washington and Oregon. It is also estimated that upward of 10,000 sailors, longshoremen, stevedores, and others were employed in the water transportation of lumber. A total of 60,088 additional persons are engaged in the lumber industry. A large percentage of the State's total population of about 1,350,000 was directly dependent in 1919 upon the forests for a livelihood.

Timber is also an important source of railroad traffic. The annual reports of the Northern Pacific, Great Northern, Oregon & Washington, and Chicago, Milwaukee & St. Paul Railroads for the year 1920, on file with the public service commission at Olympia, show that of the slightly less than 21 million tons of traffic originating in Washington nearly $13\frac{1}{2}$ million were products of the forests. Under intensive timber cropping Washington could grow on its present forest area from 1 to 2 billion board feet per year more than its sawmills cut in 1920.

The Georgia State Board of Forestry, in a report to the general assembly of 1922, estimated that the returns to the State from timber and forest products had during the past 25 years amounted to more than \$1,500,000,000.

A comparison of regions with virgin timber stands and regions such as New England, where 95 per cent or more of the cut is second-growth timber, is illuminating. present forest area of the New England States is 25.7 million acres, as compared with 17.5 million acres in the State of Washington. Stumpage returns to the owners in Washington for the lumber cut, as indicated by the 1919 census, were about \$15,250,000, while those to New England owners were nearly \$12,500,000. Washington farmers utilized from their own lands timber worth a little more than \$1,750,000, while New England farmers used timber worth approximately \$10,750,000. The value of the products of the lumber industry in New England, as a whole, was reported by the 1919 census as nearly \$120,250,000, as compared with a value of nearly \$235,000,000 in Washington. In the most heavily timbered State in New England, Maine. the pulp and paper industry has largely replaced the lumber industry, and its consumption of domestic pulp wood in 1920 had a value delivered at the mills of approximately \$26,000,000. The census reports 76,154 persons in the combined lumber and pulp and paper industries of New England in 1919, as against the 60,088 in the lumber industry of Washington. The New England industry is being supported by second-growth timber crops, largely voluntary, while that of Washington is supported wholly by virgin forests.

It is necessary to go abroad, however, to appreciate the full significance of continuous use of forest land to permanent local development and prosperity. No better example can be found than that of the French Landes. Three-quarters of a century ago the southern part of the west coast of France, including the Landes and Gironde Departments, was largely an unhealthy waste of sand and swamp. There were no roads, and the chief industry was sheep and goat raising. The region was seriously threatened by shifting sands blown in from the coast. Land could be bought at almost any price.

Out of this area of swamps and shifting sand dunes, with a malarial, scanty, and poverty-stricken population, the French Government, through reclamation and the planting of maritime pine, has made one of the most prosperous and salubrious regions of France. An area of slightly less than

2 million acres supports a population of about 1,400,000, and as a health resort is visited by about 200,000 people each year. The reclamation and reforestation of something over 1½ million acres cost on the average only \$6.41 per acre. The estimated net forest revenue of the Landes district is \$2,702,000 per year, or about \$2.22 per acre. The naval stores industry is second only to that of the United States. About 81 per cent of all the workmen employed in lumbering and turpentining operations are small holders of land within and adjacent to the forests. The returns from timber and turpentining make it possible to cultivate profitably the scattered areas of agricultural land which otherwise would be valueless. The principal crop in the Landes became turpentine and timber, not sheep or goats; and important incidental uses and benefits have swelled the value of these forests to the region and to France. Europe affords many similar examples.

The United States can show some examples of permanent communities built up around continuous forest land use. Some 75 years ago a wood-turning establishment, employing about 50 men, was located at Forestdale, Vt. The establishment has gradually been enlarged and toys added to its output. The company has built up an 8,000-acre tract which is gradually being brought under intensive forest management, and when this is done it will practically support the wood requirements of the company on the present scale of production. The number of employees of this company has gradually been increased from 50 to 200. A permanent industry makes possible permanent residence on the part of the employees, many of whom own their own homes, and some of whom have been constantly on the pay roll from 35 to 40 years. The labor turn ver is less than 5 per cent a year.

Continuous use of forest land insures permanent lumbering operations, permanent sawmills, permanent transportation, permanent secondary wood-using industries, better opportunity for the individual ownership of homes by employees, permanent schools with necessarily higher educational standards—the kind of citizenship which every region and State welcomes. Permanent forest industries mean sustained local markets for the products of scattered areas

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of agricultural land characteristic of most forest regions. They afford opportunities for part-time employment to supplement farm incomes. They prevent the isolation of the sparse population which inevitably follows forest deputation.

The Timber-Supply Problem.

The second serious problem which has grown out of timber mining is how to obtain the timber necessary to meet our requirements. The best understanding of what these requirements are may be secured from an analysis of our present timber consumption.

WOOD CONSUMPTION—UNITED STATES AND REST OF WORLD.

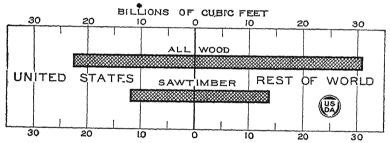


Fig. 9.—The United States consumes nearly as much wood as all the rest of the world.

Present Timber Consumption.

The United States uses more wood than any other country, and about two-fifths—22½ billion cubic feet in round numbers—of the total world consumption. Of saw-log timber the United States uses about 12 billion cubic feet, or nearly half the world's consumption of 26 billion feet, and of firewood 9½ billion feet, or nearly one-third the world's consumption of 30 billion feet. (Fig. 9.) Its per capita consumption is 212 cubic feet, of which 110 cubic feet (502 board feet), or 52 per cent, is saw-log timber, and 102 cubic feet, or 48 per cent, cordwood.

The exports of forest products are so nearly balanced by imports that cut and consumption are practically equal. The cut of 22½ billion cubic feet, however, does not repre-

sent the entire drain upon the forests of the country. Forest fires, windfalls, insects, and diseases exact every year a toll of usable timber estimated at nearly 24 billion cubic This does not include the normal loss which occurs in virgin forests through the death and decay of individual trees, but only the large-scale ravages, assuming, in the case of insects and fungi, the character of epidemics such as the chestnut-blight disease or the spruce bud worm. The loss of individual trees in virgin forests is probably offset by growth. Much of the loss caused by fire and also by insects and disease is preventable, but, under present conditions of inadequate fire protection and a lack of close management in most of our forests, constitutes as regular an annual drain as the cut itself. The total annual drain upon the forests is therefore close to 25 billion cubic feet. Its make-up is shown in the following table:

Timber removed each year from forests of the United States.1

Form of material.	Equivalent in standing timber.	Possible lumber pro- duction from same material.
	Cubic feet.	Board feet.
Fuel wood	9,500,000,000	5,000,000,000
Lumber, dimension material, and sawed ties	8,256,300,000	37,700,000,000
Fencing	1,800,000,000	825,000,000
Ties, hewed	. 840,000,000	2,100,000,000
Pulp wood	. 585,000,000	2,340,000,000
Mine timbers	395, 550, 000	879, 000, 000
Cooperage	314, 820, 000	1, 426, 500, 000
Veneerlogs	105, 980, 000	691, 200, 000
Vehicle stock, handles, woodenware, furniture, etc	45, 800, 000	200, 000, 000
Shingles	198, 000, 000	900, 000, 000
All other classes	364, 050, 000	882, 000, 000
Total	22, 405, 500, 000	52,943,700,000
Destroyed by fire, insects, disease, and windfall	2,380,000,000	7, 250, 000, 000
Grand total	24, 785, 500, 000	60, 193, 700, 000
The cut may be grouped as:	Cubic feet.	Per cent.
Fuel wood	9, 500, 000, 000	42. 4
Sawed lumber	8, 256, 300, 000	36.8
Other forest products	4,649,200,000	20.8
	22, 405, 500, 000	100.0

¹ One thousand feet of seasoned, unplaned lumber has been considered the equivalent of 219 cubic feet of standing timber, including stumps and tops, but excluding branches. For other items different ratios, depending upon the character of the material, have been used.

110 Yearbook of the Department of Agriculture, 1922.

Of this total cut, 11,615,430,000 cubic feet, or 52 per cent, is derived from trees that could be sawed into lumber (or "saw timber"), and 10,790,070,000 cubic feet, or 48 per cent, from trees below saw-log size, tops, and limbs (or "cordwood material"). The following table shows the percentage of the total cut of saw timber, and also the percentage of the total cut of saw timber and cordwood material combined, accounted for by the various forest products:

Class of product.	Per cent of saw timber.	Per cent of saw timber and cord- wood.
Fuel wood.	9. 4	42. 4
Lumber, dimension material, and sawed ties	71.2	36.9
Fencing	1.6	8.0
Ties, hewed	4.0	3.7
Pulp wood	4.4	2.6
Mine timbers	1.7	1.8
Cooperage.	2.7	1.4
Veneer logs	1.3	.5
Vehicle stock, handles, woodenware, furniture, etc	.4	.2
Shingles	1.7	.9
All other classes	1.6	1.6
	100.0	100.0

Firewood, with 42.4 per cent of the total cut, forms the largest single item. Even this is probably an underestimate, as of all the items this is the one concerning which there is least information. In most of the European countries firewood is derived from thinnings, tops, and other material unsuitable for saw timber, and is largely a by-product of the growing of saw logs. In the United States also some of the firewood is derived from logging waste, dead trees, and scattered trees not in the forest; but, on the other hand, a considerable part (9.4 per cent of the total cut) is derived from saw timber; also young trees which should be left to grow into saw timber are very often cut.

Firewood is the only product that is now being grown plentifully in the forests of the United States. Under rational forest practice its production could be made a means of improving the stand, through thinnings and utilization of inferior species and poorly formed or unthrifty trees.

The next largest item is sawed lumber, which forms about 37 per cent of the total cut of wood and 71 per cent of the cut of saw timber. Fencing, hewed ties, pulp wood, mine timbers, and other forest products make up about 19.4 per cent, or 104 billion board feet, of the 53 billion board feet of saw timber cut in the United States. Many of these forest products, such as fencing, mine props, pulp wood, and even hewed ties, could be obtained, just as in the case of firewood, from thinnings, tops of trees, and other low-grade material. At present they come mostly from high-grade saw timber or from young, thrifty trees which are cut prematurely, thereby contributing to the depletion of high-grade saw timber. Even much of our eastern boxboards, which form nearly 16 per cent of the total amount of sawed lumber, could come from thinnings instead of young, thrifty, promising trees, as at present. We are using, therefore, a large percentage of high-grade saw timber for low-grade products for many of which low-grade timber would be just as suitable.

The percentages shown in the table do not always bring out the actual relation of the cut to the available forest resources. Thus, while the cut of pulp wood constitutes only 2.6 per cent of the total cut, pulp wood derived from conifers forms 4.5 per cent of the total softwood cut. And in the Northeastern States, where the pulp and paper industry is at present centered chiefly, the consumption of pulp wood (spruce and balsam) equals 76 per cent of the entire cut of spruce. In New York the ratio is 94 per cent. The pulp mills, because of the closer utilization and the higher value of their manufactured product, can almost invariably outbid the lumbermen for spruce, which has now become almost exclusively pulp-wood material. The same is true with regard to other forest products, such as shingles. Shingles are derived from large trees of a few species, such as cypress, western red cedar, and eastern white cedar, the supply of which is becoming limited.

By species the cut also presents significant features. Softwoods (pine, spruce, fir, etc.) represent slightly more than half of the total production, or 53 per cent, and hardwoods (oak, poplar, birch, beech, maple, etc.) 47 per cent. For firewood the hardwood species are used in greater quan-

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tities than the softwoods, while in the cut of material for all other purposes the softwoods predominate. They comprise about two-thirds of the total cut of saw-log material and three-fourths of the cut of sawed lumber.

Conifers supply the bulk of the timber consumption other than fuel not only in the United States but in the entire world. Of the present consumption of wood in the world, three-fourths is from coniferous forests and about one-fifth from temperate hardwood forests. Abundant coniferous forests have materially aided in the development of this country. They must also be looked upon as our chief future source of saw timber. The temperate hardwoods are on

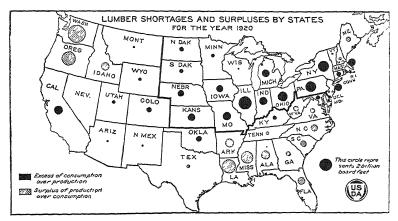


Fig. 10.—Our greatest industrial and food-producing regions—the area north and east of the heavy line—cut only 23 per cent of the lumber they use, and must ship in 77 per cent, chiefly from the South and far West.

better soil than the conifers, for the most part, and are chiefly in the more densely populated region, where the pressure for agricultural land is strongest and most persistent. Moreover, the second-growth hardwood stands are cut freely for firewood and various minor products before they reach saw-timber size, so that relatively little saw timber could be obtained from them for some time even if their lumber could replace that of conifers. The crux of the timber situation in this country, as everywhere else during the next two or three generations, at least, lies in finding a sufficient supply of coniferous saw timber.

A further analysis of our present requirements discloses a discrepancy between the centers of the greatest lumber cut

and consumption. Only three regions—the South Atlantic and Eastern Gulf States, the lower Mississippi States, and the Pacific coast—have an excess of production over consumption. In all others lumber consumption is far in excess of the cut. Of the 48 States, 28 fall short of meeting their own requirements.

The principal food-growing region, comprising the States of North Dakota, South Dakota, Minnesota, Iowa, Nebraska, Kansas, and Missouri, imports 77 per cent of the lumber it consumes. Similarly, the principal manufacturing region. comprising the States of Wisconsin, Illinois, Michigan, Indiana, Ohio, New York, Pennsylvania, New Jersey, and the New England States, produces only 32 per cent of the total lumber consumed. (Fig. 10.)

The present cut, if taken wholly from the actual growing forest area of 250 million acres, would be 90 cubic feet per acre. The average production per acre on this growing area is estimated at 24 cubic feet. The present annual growth is estimated at 6 billion cubic feet of wood of all sizes and qualities. This represents less than one-fourth of the total drain upon the forest, including loss through insects, diseases, and windfall. The total drain upon the forest of sawlog material, in round figures, is 60 billion feet board measure. The annual growth of saw-log timber is only 10 billion board feet; hence the drain upon the forest is over six times as great as the replacement of saw-log material through growth. The actual cut is 53 billion board feet. This is shown graphically in Figure 16. As a matter of fact, little of the very old, high-grade timber which now occurs in virgin forests is being replaced, and it is unlikely that such material will ever be grown again, except in public forests.

A comparison of the annual drain upon the forests and the annual growth, separately for hardwoods and softwoods, is given in the table below:

Species.	Total drain 1 on the forests.	Annual growth.	Ratio of drain to growth.	Total drain ¹ of saw timber.	Annual growth of saw timber.	Ratio of drain to growth.
	Million cu. ft.	Million cu.ft.		$Million \ bd.ft.$	Million bd. ft.	
Hardwoods	11, 260	3,236	3.5	19, 136	5, 104	3.7
Softwoods	13,526	2,803	4.8	41,058	4, 770	8.6

¹ Cut and destroyed.

Coniferous saw timber is being removed from our forests $8\frac{1}{2}$ times as fast as it grows, hardwoods only 4 times. A great part of the hardwood cut is for fuel wood. Since the softwood timber is the best of all woods for general purposes and is most in demand all over the world, its depletion at such a rate is particularly serious. The only reason that the present cut can be maintained for the time being is that the virgin timber from which the bulk of the cut is now derived represents, like coal deposits, an accumulated growth of centuries.

Not a single region, even the regions of the largest forests, are balancing their own present consumption of timber through growth. In the New England States only about one-third of the actual consumption of lumber is supplied by annual growth; in the Middle Atlantic States oneseventh; in the Lake States, less than one-third; and in the Central States, one-sixth. In the South Atlantic and Eastern Gulf States, a region of low consumption, four-fifths of the requirements are covered by annual growth; in the lower Mississippi States, a little over half; and in the Rocky Mountain and the Pacific Coast States only about one-fourth. The small present timber growth in the Rocky Mountain and Pacific Coast States is due, however, to large areas of virgin timber in which growth is offset by decay. As the virgin timber is cut the growing area and the amount of growth should increase. The regions which at present have an excess of lumber cut over consumption comprise largely States which are developing rapidly both in agriculture and manufactures. Their consumption is in excess of the amount of wood produced by growth, and their cut is still more so. As their own resources become depleted and their own local requirements increase, they will need most of their present lumber cut for home consumption.

The outstanding facts regarding our present consumption are: Its enormous size; the large extent to which, particularly in the case of saw timber, it is being cut from virgin forests; the extent to which high-grade material is used for purposes for which smaller material would be satisfactory; and its excess over growth.

Transportation and Lumber Prices.

Another serious phase of the timber-supply problem is the high prices of forest products. They increase the amount which the consumer has to pay and reduce the quantity which he can purchase. High lumber prices increase the cost of a vast number of other commodities. High lumber prices have as one of their chief contributing causes the increasing distance between the centers of lumber production and consumption as the timber is mined from more and more distant regions.

One of the cumulative results of 300 years of timber mining was in 1920 a lumber freight bill on the American railroads of approximately \$230.000,000, and water freights aggregating an additional \$20,000,000. This total of \$250,000,000 is, however, but a small part of the price which the American consumer paid. High freight is an added charge on which the lumber dealer pyramids his distributing costs and profits. Long-distance transportation from manufacturer to dealer makes necessary the holding of large stocks, hence large investments which also must pay profits, so that added investments, costs, and profits built up upon the freight bill add to the final price which the consumer pays for lumber. Furthermore, increased lumber prices are multiplied in the prices of all other commodities in the manufacture of which lumber is necessarily used.

Though the lumber cut has fallen in the last decade, the consumer's lumber freight bill has increased—more must be paid for less. Longer hauls and higher freight rates much more than offset the decline in production. In 1910, 1913, and 1914 lumber freights averaged nearly \$100,000,000 less than in 1920. The average per thousand feet on rail shipments for the three years first named varied between \$3.75 and \$3.85; in 1920 it was approximately \$7.30. The average rail haul in 1914 was about 350 miles, but in 1920 more than 480 miles. These averages include short reshipments by lumber dealers and are therefore understatements of both the distance and the cost of transportation from producer to consumer. The water haul also has increased.

The lumber cut is gradually shifting from the South to the far West. In 1920, 34 per cent of the cut was in the South and 31 per cent on the Pacific coast. Of the total cut 45 per cent was consumed in the territory east of the Mississippi and north of the Ohio and Potomac Rivers. The center of consumption of this region is approximately at Erie, Pa., distant 1,200 miles by rail from the approximate center of southern-pine production at Hattiesburg, Miss., but 2,750 miles from Portland, Oreg., which is roughly the center of Douglas-fir production on the west coast. (Fig. 11.) An increasing length of haul is therefore certain.

New York's rail freight bill on imported lumber for 1920 was approximately \$22,500,000, and that of Pennsylvania at least \$20,000,000. Massachusetts and New Jersey each paid a freight bill of about \$8,000,000, and Connecticut \$3,000,000. Michigan's bill probably exceeded \$15,000,000. The bill for the New England States as a whole was between \$13,000,000 and \$15,000,000, while that for the three Lake States, for three decades or more the largest lumber exporting region in the United States, probably exceeded \$30,000,000. In 1920 freight cost Ohio in the neighborhood of \$13,500,000, and Illinois more than \$28,000,000.

A short, cheap lumber haul was characteristic of our early forest history. Maine to Boston, the upper Hudson to New York City, and the Pennsylvania river traffic to Philadelphia and Pittsburgh illustrate the long hauls by which lumber moved in volume up to the time of the Civil War. The distance from Bangor to Boston is about 225 miles and from the upper Hudson to New York less than 200 miles. The rafting of the Pennsylvania rivers rarely covered more than 400 miles. Early transportation costs are lacking, but in later days the Bangor-Boston haul cost about \$2 a thousand feet. Apparently much of the "Albany" pine reached New York with a transportation charge of \$1 a thousand, and even the Buffalo-Tonawanda shipments were largely made for less than \$3.

Likewise the early rail shipments were relatively short. The rates at first were excessive as compared with present standards, but lumber did not move in volume until transportation was well developed and the rates had fallen. The Bangor-Boston rate, for example, until the last few years averaged about \$3 a thousand feet. That from Williamsport to Philadelphia, less than 200 miles and fairly representative of Pennsylvania hauls, ranged from \$2.25 to \$3.

The cutting of the Lake States pine ushered in a new era in transportation distances and costs. While prior to 1860 a lumber haul of 500 miles was exceptional, and even half this distance much above the average, a large part of the Lake States cut, even to middle western markets, moved more than 500 miles; and New York is 1,000 miles by water from Saginaw, one of the nearest points of manufacture in the Lake States territory. Water transportation on the Great Lakes, the Erie Canal, and the Mississippi helped amazingly to keep down costs. Rafting both logs and lumber on the Mississippi after it was well organized frequently cost less than \$1 a thousand feet. Millions of feet of cork

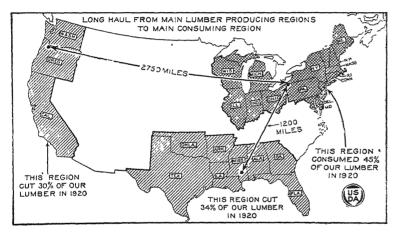


Fig. 11.—The average rail haul for lumber is increasing with the shift of the cut from the South to the Pacific Coast. The Pacific Coast States cut 30 per cent of our lumber in 1920 and the Southern States cut 34 per cent. Forty-five per cent of our lumber was consumed in the region east of the Mississippi and north of the Ohio and Potomac Rivers.

pine cost for transportation on the New York wharves less than \$5 a thousand, and at times not more than \$3. Chicago for many years received hundreds of cargoes of lumber at a freight of \$1 a thousand or less, and \$2.50 or \$3 represented about the maximum. Rail transportation, bringing many advantages, was responsible also for increased costs. After an era of high levels with little movement, rates settled down during a period of fierce cutting and rebating to much lower levels, but it still cost \$6 or \$7 to carry lumber from Saginaw to New York. Apparently much of the Lake States cut cost the consumer in transportation \$5 or less per thousand feet, and relatively little carried a charge exceeding \$10.

When the timber mines of the Lake States were approaching exhaustion, southern pine shipments began over

much longer distances and at higher rates. Beginning on the Atlantic coast after the Civil War, they were small in volume by rail to the interior until after 1890. Water distances ranged from a minimum of 300 miles from Norfolk to Philadelphia to 2,000 or more from Gulf ports to Boston. Aside from purely local markets, the distances by rail were ordinarily in excess of 750 miles and frequently exceeded 1.000, as illustrated by the distance from Hattiesburg, Miss., to Boston of more than 1,500 miles, or to Pittsburgh of 1,100 miles. On the average, water-haul transportation costs from the southern-pine regions were mostly above \$5 and sometimes reached \$8. Rail freights ranged from \$7.50 to \$13. Postwar rail rates, under which lumber is still moving in large amounts, are much higher, averaging from \$12.50 to \$15 or more per thousand feet. The water movement is now relatively small.

But even these distances and costs are small as compared with those from the Pacific coast. By water Puget Sound is nearly 7,000 miles from New York. By rail Omaha is nearly 2,000 miles from Portland, Chicago is 2,300, and New York is 3,200 miles. The pre-war water rates of \$12 to \$16 per thousand feet from Puget Sound to Atlantic coast points are now approximately 25 per cent higher, and the pre-war rail rates of \$12 to the Middle West and \$20 to New York have jumped to \$17.50 to the Middle West and \$25 to the Atlantic coast.

Increasing distances between producer and consumer have inevitably resulted in higher lumber prices. Growing inaccessibility of the standing timber even within the same regions has had exactly the same effect, though smaller in degree. The scattered data on lumber prices which have come down from colonial New England show that from the installment of the first sawmills until as late as 1736 pine lumber prices were commonly around \$5. The cutting of this period took only the most accessible timber, investments were exceedingly small, and carrying charges on stumpage were practically nil. Hauls were very short, with a maximum of 250 miles, and costs were low. Between 1748 and 1775 prices show a slightly higher level, averaging about \$8.50 per thousand feet, due in part to cutting out the most accessible timber.

Merchantable pine sold on the Boston markets between 1799 and 1834 for \$10 to \$14 per thousand feet. This was relatively accessible material from the Kennebec and Machias regions of Maine. With the cutting out of this material and the beginning of operations in the more remote Penobscot timber, prices rose to a new level of \$16 or \$20 per thousand, which was maintained from 1835 until about 1852. The latter year, however, marks the beginning of the end of the Maine pine. Only the more remote timber remained for cutting. Spruce began to come into the Boston market and Maine pine rose to a new level, which it held, barring the period of inflation of the Civil War, until it disappeared from the market shortly after 1880.

The wholesale price of round-edge 1-inch white-pine box boards in the New England markets carries with it a lesson of importance, particularly in relation to the stumpage prices of the second-growth pine from which this material is cut. The prices of this material ranged between \$10 and \$13.50 per thousand feet between 1890 and 1907. They then rose gradually until during the war inflation they exceeded \$30, but have since fallen off to \$24.50. These are wholesale prices which the New England manufacturer pays for box boards in his immediate vicinity. The hauling cost is very low. At these prices native pine box boards exclude, in competition, box boards of all other species from all other regions. These prices, however, plus the increased returns made possible by a relatively small cut of higher-grade material, have, as will be shown in a subsequent section of this article, permitted stumpage prices on second-growth New England pine as high as or higher than on any other softwoods in the United States, virgin or second growth.

In western markets the change in price levels with failing local supplies and increasing transportation costs is as definite and clear-cut as in the East. The cheap local haul from the Lake States to Chicago held cargo prices on white-pine boards, from 1859 until 1902, between \$7 and \$16 per thousand feet, and it was not until southern pine entered this market in volume, when white pine could no longer meet requirements and became more and more a specialty wood, that prices reached a new level of from \$22 to \$25. This level held between 1905 and 1911, after which quotations are no longer available. Similarly, retail prices in the

Chicago market between 1849 and 1898 on rough white-pine boards varied mostly between \$10 and \$13. A period of transition followed the introduction of yellow pine, and a new price level of from \$30 to \$33.50 was established which held from 1906 until 1916.

The relation between increasing transportation costs and the rising price of lumber is shown very specifically by the records of a group of retail yards in Minnesota. In 1905 nearly 91 per cent of the lumber sold consisted of northern pine and Wisconsin hemlock, and the remainder was made up about equally of Douglas fir and western white pine and southern yellow pine. The average freight cost on the lumber sold was \$3.25 per thousand feet, and the average retail selling price was \$26.03. In 1913 pine and hemlock production had fallen so far that they formed less than 60 per cent of the sales, while west-coast shipments had increased to make up more than 37 per cent. The average freight cost had risen to \$6.75, and the retail selling price to \$32.28. In 1921 Wisconsin hemlock no longer appeared in the sales and northern pine made up less than 8 per cent of the volume. In excess of 92 per cent of the sales consisted of Pacific-coast timber. The average transportation cost had risen to \$18.12 and the selling price to In short, a transportation cost in 1905 of \$3.25 made possible a retail selling price in southern Minnesota of \$26.03, but a transportation cost of \$18.12 in 1921 had been instrumental in no small part in more than doubling the retail selling price. Furthermore, the transportation cost increased from 123 to nearly 34 per cent of the total retail price.

The report on Senate Resolution 311 shows that under the abnormal conditions of 1920 the difference in retail prices between producing and consuming regions for the same species and grades of timber were very much greater than the cost of transportation alone. This condition still holds true. An average of retail prices in Portland, Seattle, and Bellingham, Wash., on Douglas fir vertical-grain flooring during the month of August, 1922, was \$60 per thousand feet. The freight rate on this grade to Minneapolis was \$12.50, but the retail price was higher than that in the producing region by \$28. A freight rate to Boston of \$18 made a difference in retail prices of \$40, or approximately

two-thirds of the retail price of the grade in the region of its manufacture. Similarly, a water rate of from \$15 to \$16 to New York City has resulted in a price increase of \$26 in the case of Douglas fir No. 1 common dimension, selling for \$19 on the west coast. Similar relationships hold also in the case of southern yellow-pine grades.

It is still possible to buy common lumber and dimension at retail in the Douglas fir region for less than \$20 a thousand feet, while the same material in the middle-western markets is selling for approximately \$50. Likewise No. 2 common boards and No. 1 common dimension can be bought at retail in the parts of the South in which lumber is still being manufactured for as low as \$22, and on the average for \$30 or less, while the same grades cost \$50 or more in the consuming regions of the Middle West and the East. The explanation of the difference is transportation and the additional costs, investments, and profits and reduced competitive facilities which this transportation necessarily involves.

RELATION OF SOFTWOOD-LUMBER TO ALL-COMMODITY PRICES, 1840-1921.

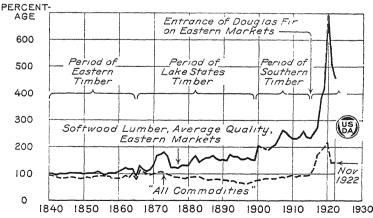


Fig. 12.—Before 1860 lumber came from nearby forests, with a short haul. As the East, after 1860, became dependent on the Lake States forests. lumber prices moved to a higher level. A further rise about 1900 marked the approaching exhaustion of the Lake States timber and the beginning of large-scale operations in the South. The recent sharp divergence between the two curves coincides with the appearance of Douglas fir in substantial quantities in eastern markets. This movement of prices illustrates the effect of local forest depletion, resulting in long hauls, high freight charges, and consequent price increases. Lumber that cost \$100 in 1840 cost \$510 in 1921, whereas \$100 worth of all commodities in 1840 cost only \$143 in 1921. In the graph 1840 equals 100.

Local timber depletion, which greatly increased hauling distances, was a material factor in the abnormal lumber prices of 1920. It greatly accentuated the effects of abnormal demands, disorganization of the lumber industry, adverse weather conditions, and the inability of the railroads to handle lumber traffic. It is to be hoped that we shall never again have this combination of adverse conditions, but it must be remembered that the average distance between producer and consumer is rapidly increasing and that in a relatively few years the fulfillment of demands from a large part of the entire United States will be dependent upon one lumber-producing region with transportation facilities much more limited than was the case in 1920, when it was still possible to draw upon two large producing regions.

The relation between local depletion, the long haul, and lumber prices, as compared with the prices on all commodities as shown by index numbers, tells the same story in another way. (Fig. 12.) To bring out most clearly the effect of the long lumber haul, 1840 has been taken as 100 because this represents the period of local production and short hauls in the eastern lumber markets. All commodity index numbers are those of the Bureau of Labor Statistics, Department of Labor. The lumber index represents eastern markets and various species of softwood lumber of average grades. The lumber and all commodity curves kept near together between 1840 and 1865, a period of local lumber production. Since 1865, when Michigan pine began to come in, the trend of the curves is steadily apart, and this is particularly noticeable during the years immediately prior to 1900, when Lake States pine could no longer meet the demands of the eastern markets and southern pine had to be brought in from longer distances. All commodity costs taken at 100 in 1840 had reached 143 in 1921, but it would have required \$510 in 1921 to buy the same quantity of a poorer grade of lumber than \$100 would have bought in 1840.

That there is a close relationship between total lumber production and retail prices is strikingly shown in Figure 13. The upper curve represents lumber production, which in the United States is essentially the same as lumber consumption. Several retail price curves, which are closely similar, indicate the trends in prices in one of the largest lumberconsuming regions of the country. Lumber production in-

RELATION OF RETAIL LUMBER PRICES TO PRODUCTION AND CONSUMPTION.

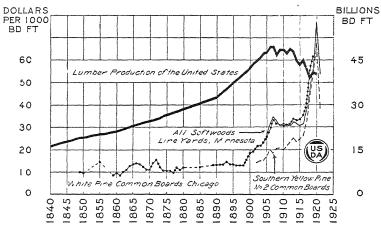


Fig. 13.—The United States still has mills and timber capable of producing a cut equal to that of 1907; but prices are now so high and transportation so costly that the consumer can not afford to buy as much lumber as he once did.

creased during a long series of years, with relatively low retail lumber prices. It reached its crest during a period of rising prices. It substantially held its own between 1906 and 1913, a period of relatively stable lumber prices, and has since fallen off during a period of prices much higher than those of any previous time.

A consequence of local timber shortages is, therefore, long and expensive hauls, higher prices for forest products, and enforced reduction in consumption. This affects standards of living through prices and consumption of forest products and other materials in the making of which forest products are used.

Future Timber Requirements.

Though many of us may never buy so much as a single piece of lumber, every man, woman, and child in the country uses wood every day of his life. Forest products are consumed in obtaining nearly every raw material, and again in virtually every process of manufacture, movement of commerce, and activity of trade. Every ton of steel requires the consumption of wood in mining the iron ore and in mining the coal used to make the steel. The coal mines of the country consume annually from 250 to 300 million cubic feet of wood. To manufacture cement, coal must be used, and therefore wood; and large amounts of wood are used for forms in concrete construction. Copper can not be made without consuming wood. All food is produced with the aid of wood in some form, and most of it is shipped in containers made from wood. The farmer who raises our foods and the hides and textiles from which our clothing is made is the largest consumer of wood in the country. In short, the general public pays a large part of its bill for wood in the disguised form of the cost of food, clothing, and other articles that contain no wood at all.

Any increase in the cost of producing these articles is pyramided in the successive steps necessary to reach the consumer. Our American living standards are therefore essentially tied in with adequate wood supplies. Wood scarcity carries a universal menace. For example, the requirements of our railroads, essential to our economic life, are enor-They use wood for buildings, cars, bridges, fences, tanks, and many other purposes, but especially for ties. The increased cost of ties alone since 15 years ago has added \$1,300 per mile to the cost of construction of new lines, and \$135 per mile to the annual cost of maintenance. With a present yearly consumption of ties only about two-thirds of the pre-war total, this means an added outlay equal to 10 per cent of their total net revenues in 1913. requirements furnish another example. At least 90 per cent of the paper used in printing is made of wood. high prices of pulp wood in the past few years have helped send up the cost of paper, and, in consequence, of books, periodicals, and advertising, and to a less extent newspapers.

Ninety-eight per cent of our rural dwellings are of wood. For urban dwellings the percentage is from 59 to 98, varying from State to State. Wooden houses are the easiest, quickest, and ordinarily the cheapest to construct. This has put decent homes within the reach of millions of people, many

of whom could not have afforded brick, stone, or concrete structures. The present shortage of dwellings has been estimated at more than a million. This in itself means cramped quarters, overcrowding, high rentals, lowered living standards in every direction, and a train of social dangers and evils. It is not merely the poor, nor merely those living in cities, who suffer when the cost of home construction increases; and the effect is not fully measured in terms of the number of dwellings needed but not built. The more it costs to build a house, whether in the city or in the country, the smaller will be the space with which the occupant, even though relatively well to do, must be content. Rooms are smaller, and there are fewer of them; and, in the cities at least, children create serious problems. Cheap housing and ample living space are very real blessings. abundant timber supplies they would never have been pos-The lumber and other forest products going into building construction in 1922 cost the consumer at least \$750,000,000 more than was paid for similar material in 1909, although the quantity used in the earlier year was some 30 per cent larger.

The United States is just beginning to feel the effects of timber scarcity, and its full consequences have not yet become evident. Both their extent and their duration will depend very largely upon what measures may be adopted to supply our future requirements. Some light on what these requirements may be expected to be is thrown by the requirements of the past.

The per capita consumption of the country rose steadily and rapidly during the industrial development that marked the second half of the nineteenth century; but since 1906 it has been declining. The 1920 average per capita consumption was less than that in 1870, 50 years before. It is true that the World War was largely responsible for the more recent and abrupt part of the decline, and it would be unsafe to predict that this downward trend in per capita consumption will not shortly be reversed to some extent; but there can be no question as to what, on the whole, the decline signifies. The normal increase that was taking place in the per capita consumption of lumber with other primary

industrial materials was checked by rising prices, which again were closely related to timber depletion. The decline in the per capita consumption, even before the war, was sufficiently great to more than offset the increase in population. The annual rate of decline between 1906 and 1913 was 2.2 per cent. Between 1913 and 1920 it was 3.9 per cent, and for the entire 14 years, 1906–1920, it was 2.8 per cent. The upward course of per capita consumption prior to 1906 was in response to national growth in agriculture, manufactures, and living standards. The subsequent downward course represents in part increasing inability to satisfy our real needs.

The tendency of requirements for timber to increase instead of diminish is world-wide, in spite of the greater use of substitutes for wood. This is illustrated by the growth in consumption of the nations which are advancing industrially, but which are restricted to a moderate use of wood by inadequate home supplies. Great Britain affords reliable figures which show a growing consumption of wood during the greater part of a century. Great Britain has depended for a long time on imports for 95 per cent of its entire consumption. The per capita timber imports into Great Britain nearly quadrupled in the 60 years from 1851 to 1913, and the total consumption increased more than five times in the same period. That the requirements for timber have increased more rapidly than the population is very significant. It is only reasonable to anticipate that the demand will increase still further in the future.

Though Germany's forest production doubled in volume within the past century, her imports of lumber from other countries steadily increased in amount. France, whose population is stationary, shows very little increase in the total amount of wood used. During the last few decades the total consumption of saw timber has increased in France at the rate of about 0.1 per cent a year, in Germany 1.4 per cent, in Great Britain 1.8 per cent, in Belgium and Italy 2 per cent, and in the United States, in spite of the recent decrease, 1.6 per cent. These countries use nearly two-thirds of the saw timber consumed in the world. The weighted average of these figures gives an annual increase for the world of

1.45 per cent. At this rate of increase, lumber consumption has doubled about every 50 years.

The consumption of other forms of material than lumber must also be considered. There is little basis for determining whether the consumption of most forest products other than lumber is increasing or decreasing. In the case of pulp wood, reliable data show a large growth in consumption. From 1899 to 1920 the consumption of pulp wood in the United States rose at the rate of 5.5 per cent annually, with a total increase during the period from 1.986,310 cords to 6,114,072 cords. The consumption of mine timbers, poles, and piling, has probably increased. In the case of various other products, such as distillation wood, cooperage, and shingles, there have been no noticeable changes.

Considering all the factors that determine the amount of timber a country uses, it is improbable, on the whole, that any considerable decrease in national requirements can be looked for. If present living standards and industrial uses are maintained, any reduction in the quantity of wood taken from the forest must be sought either through lessening waste, through substitutes, or through imports. On the other hand, other things being equal, our timber requirements must be expected to increase with increase in population.

The Timber Requirements of a Growing Population.

From 1810 to 1860 the population of the United States increased at a nearly uniform rate of approximately 35 per cent each decade, and from 1870 to 1890 at 25 per cent each decade. During the last three decades, however, the rate has been 20.7, 21, and 14.9 per cent.

Economists are generally agreed that a gradually lessening rate of increase is to be expected. The best authorities hold that by, if not before, the end of the present century the population of the country will have become nearly stationary, at from 175,000,000 to 200,000,000, but that the 150,000,000 mark will be reached about the middle of the century.

At the current per capita consumption, a population of 150,000,000 in 1950 would require not quite 32 billion cubic

feet, of which saw timber would approximate 16.6 billion cubic feet, or 76 billion board feet.

Imports to Meet Future Timber Requirements.

Will the United States be able to meet a part of its timber needs by imports from other countries? Our present exports and imports of timber and other forest products nearly balance. It may be expected that as local shortages develop within the next few years, as has already been the case with pulp wood in the Northeast, they will be covered in some part by importations, particularly from Canada. Our imports will probably soon exceed our exports. Any hope, however, that we may depend upon importations from abroad when our timber resources are exhausted must be abandoned.

Two-thirds of all the timber consumed in the United States is softwood—pine, fir, spruce, and hemlock. There are only three great bodies of comparable coniferous timber in the world. One is in northern America; a second extends from Scandinavia eastward through Finland and European and Asiatic Russia to the Pacific; and the third, of relatively minor importance, is in central and southeastern Europe, chiefly in pre-war Austria-Hungary.

Although Canada still possesses a vast softwood forest area, much is in the Arctic region and will be of doubtful availability for export trade. The more accessible forests are rapidly being developed to their capacity for the needs of the British Empire. The greater part of the Alaskan forests are better adapted to pulpwood than to lumber.

In Europe the few countries still having large coniferous forests can not supply the needs of the rest of the European nations. The area formerly embraced in Austria-Hungary was overcutting its forests prior to the war in order to export about 322 million cubic feet a year. To maintain their exports at the former amounts these countries will have to limit their own consumption to very low levels or seriously deplete their forests. They will probably do both for the next decade or two in order to rehabilitate their economic status, with the result that eventually domestic needs will absorb all that their forests can produce.

Scandinavia has but a small surplus of structural timber. Her exports consist mainly of pulpwood and pulp. Finland and Russia are therefore the only countries in Europe which can be counted on as important sources of structural timber to meet the large needs of their nearby neighbors.

Siberia, with her billion acres of forest fully developed. could export large quantities of timber. The forests of Siberia, however, are still undeveloped and a great part of them lie, like those of Canada, within the Arctic and interior regions and may never be available for a large export trade. The forests lying close to the Pacific Ocean are partly surrounded by nations which will be the first bidders as export trade increases. China, with her hundreds of millions of people, is likely to develop industrially and much of her timber needs must be supplied from the Siberian forests. Japan, although still an exporter of certain species of timber, already imports large quantities from Siberia. Even if all the Siberian timber were at the undisputed call of the United States and lumber could stand the cost of transportation from Siberia to the interior and Eastern States, the quantity available for annual export would amount to but a small part of our present consumption. The timber needs of the United States are so enormous, amounting to nearly half of the consumption of the world, that it is inconceivable that they can be supplied, except in small part or at excessive prices, by importations from other countries.

Although the hardwood outlook is more promising, the difficulties in securing the amounts necessary are no less serious. The tropical forests of South America and Africa contain vast areas of hardwood timber, some of which can doubtless take the place of our own hardwoods when they are gone. These tropical forests, however, will probably remain undeveloped on any large scale for a number of decades. The great variety of species on each acre makes it expensive and difficult to log the scattered merchantable trees, and the little-known properties of the various woods, the difficulty in seasoning them, their heavy weight, and the high cost of transportation, may prevent their use in large quantities to replace our own hardwoods. It is doubt-

ful whether the exploitation of tropical hardwoods can come soon and fast enough to meet our pending shortage of sawlog material short of prohibitive costs.

Reduction in Waste to Meet Future Requirements.

No analysis of our future timber requirements is complete without a consideration of the possible reduction in the waste which has been so large a factor in swelling the drain on our forests to its present volume. Many forces unite to determine how much of the volume of the tree is Some are purely economic, like the freight rates put to use. which make it unprofitable to ship low-grade material to its nearest market and consequently throw it into the sawmill Some represent inertia in methods of manufacture and use, based upon the economic situation of 20 years ago. Others reflect the prejudices and habits of the consumer who will not use intrinsically valuable trees because he has been accustomed to other species. Still others grow out of the lack of technical knowledge of the properties of wood on the part of manufacturers and wood consumers alike.

During the timber mining stage of our forest history, with its reliance upon "inexhaustible" timber resources, there has been too little incentive to make the utilization of the raw material complete; in many cases it has indeed been more profitable to skim off the cream. The time has now come, however, when, from both the public and industrial standpoints, unnecessary waste of forest products, particularly of high-grade timber, must be placed in the same category as failure to keep forest land productive.

Waste, as the term is here used, includes the part of the tree not utilized, regardless of whether utilization is possible under present knowledge and economic conditions. It occurs during primary manufacture from the standing tree into such products as rough seasoned lumber; in remanufacture, as in making furniture from lumber; and finally, through the avoidable destruction of the final products such as ties, posts, mine timbers, and even buildings by decay or fire. Limbs are excluded, so that waste in manufacture or remanufacture refers to the portions of the bole of the tree lost in such forms as tops, stumps, bark, slabs, edgings,

trimmings, saw kerf, resawing, etc., together with the low-grade logs which often are left in the woods.

The serious phase of the waste question is that nearly 80 per cent of the total (see table below) is in high-grade timber. The cutting up and reworking of such material explains this high percentage. It is the most valuable timber, however, which will require the longest time to grow and of which our shortage will be most acute. More important than the amount of waste, however, is the part which can be saved. This is the phase of the question which bears most directly upon our timber-supply problem.

Annual cut, waste, and possible savings, billions of feet.

Class of material and process.	Equiva- lent in standing timber	Total Total cut 1 waste		Possibl	Possible saving.	
	Cubic feet.	Board fect	Cubic fect	Cubic feet	Board feet.	
1. Lumber, primary manufacture	i	37.7	5. 13	0.3	3.6	
2. Lumber, remanufacture			. 56	19	2, 28	
3 Lumber, fire and decay			. 11	.06	.72	
4. Totallumber	8. 26	37.7	5.8	. 55	6.6	
5 Saw timber other than lumber, primary manufacture	3.36	2 15. 24	1.2			
and decay			. 22	.11	2.6	
7. Total saw timber including lumber,						
all processes	11.62	2 52. 94	7. 22	.66	2 7.2	
8. Alltimber below saw timber size	10.79		1.98	.49		
9. All wood, all processes	22, 41		9. 2	1.15	27.2	

¹ The ratios between cubic feet and board feet, in columns 1 and 2, are the same as those used in table on p 109. The ratios between cubic feet and board feet, in columns 4 and 5, are 12 board feet to the cubic foot, except in item 6, where the ratio is 5 board feet to the cubic foot, and in items 7 and 9, which include item 6. It should be recognized that thoroughly rehable data on many forms of waste and possible savings can be obtained only through much more extensive and detailed investigations than it has been possible to make.

From approximately 8½ billion cubic feet of standing timber, we manufacture under present practice 37.7 billion board feet of lumber, in the ratio of 219 cubic feet to 1,000 board feet. A considerable part of the loss in sawdust, slabs, etc., is unavoidable. But remedial waste occurs in unnecessarily high stumps, in unnecessarily large tops left in the woods, in thick saw kerfs, in excessive slabs, edgings, and trim-

² Approximate equivalents

mings, and in the exclusive use of even lengths and widths. Inefficient methods of manufacture and seasoning are also responsible for large losses.

Under the best European practice, it is possible to secure 1.000 board feet of lumber from 150 cubic feet in the stand-This, however, occurs only in a few countries and species, such as spruce, which can be cut very closely. If we could cut our material on a ratio of 175 cubic feet to the thousand board feet, which is much nearer the average European standard, 81 billion cubic feet of stumpage would yield 93 billion board feet more lumber than at present. In order, however, to make the estimates of possible savings fall well within actual possibilities under the conditions which we shall have to meet, it has been assumed that 1,000 board feet of lumber could be cut on the average from 200 cubic feet of tree trunks. This is probably below the present average European utilization, and it is now being secured in parts of New England. On this basis, we should be able to cut from the same trees over 31 billion board feet more lumber than is now obtained.

Our remanufacture and use of lumber are still wasteful processes. Approximately half of the lumber cut is remanufactured into such products as sash and doors, boxes and crates, furniture, vehicles, tanks, silos, and agricultural implements. An extensive survey of the 50 or more important wood-using industries and an intensive study of a limited number of them disclose a large additional waste, much of which could be saved by selecting raw material especially suited to the manufacture of the finished product and by more efficient methods of seasoning and manufacture. In the production of bent, irregular, and clear stock in chair and furniture making, for example, waste not uncommonly exceeds 50 per cent of the lumber purchased. Hickory handle manufacture sometimes requires 2 tons of lumber to produce 400 pounds of handles, a loss of 90 per cent. Detailed investigations have shown that a large percentage of the boxes and crates now used could be made stronger and more durable with less material.

There is waste, also, in the utilization of the half of the lumber cut which goes into general construction. The con-

suming public still demands clear stock for purposes where lower grades would be entirely suitable, or even lengths and widths where odd lengths and widths would serve as well. Structural timbers are frequently used in larger sizes and of better quality than the conditions demand because of ignorance of their strength and serviceability. On a conservative basis, an additional 2½ billion board feet of the lumber waste which occurs in remanufacture, building, etc., could be saved each year by the methods indicated.

Unfortunately, waste does not stop with the completion of the final product. Large additional losses each year, some unavoidable and others unnecessary, result from failure properly to protect structures and such products as ties and poles from fire or decay. These are losses which increase the drain both upon high-grade saw timber and lower-grade material.

The annual loss of buildings in the United States from fire in 1920 was estimated at \$330,854,000. This loss includes a large amount of wood, and a very considerable part is due to carelessness or to forms of construction which increase fire risks. The development of fire retardants will help materially to reduce such losses.

Decay of finished wood products takes each year a very large and partly unnecessary toll. While the treatment of wood to prevent decay has grown rapidly, from nearly 76 million cubic feet in 1909 to slightly more than 200 million in 1921, only a beginning has been made. It is possible to decrease materially the drain upon our timber supply by much wider use of timber preservatives. A long series of tests show, for example, that it is possible to extend to 10 or even 20 years the life of ties and poles of various kinds of wood which without treatment last only 2 to 8 years.

Possible savings of high-grade material now lost from thre and decay, including that cut into lumber, poles, piling, and similar products, amount to approximately 1½ billion board feet, of which nearly 750 million represent lumber alone.

Out of the total loss of high-grade material in primary manufacture, remanufacture, and from fire and decay, it is possible to save in excess of 7 billion board feet a year. It should be possible to save in lumber alone more than 6½ billion board feet out of the material we are now taking

from the forest. This is more than half the present growth of saw-timber material on all forest lands.

The prevention of decay through preservative treatment or better methods of handling offers the chief opportunity to reduce the waste of the smaller low-grade material. Very little of the nearly 300 million cubic feet of mine timber, largely below saw-timber size, or the 900 million fence posts now used annually are treated. Where feasible, treatment of both materials would, as in the case of ties and poles, increase their life several times. Improper methods of storage sometimes result in the decay of a considerable amount of such material as pulp wood. In exceptional cases this loss has been known to reach from 40 to 50 per cent. The possible saving through preservative treatment and improved methods of storage to prevent decay could probably save about 500 million cubic feet each year.

While the total waste figures as shown by the table on page 131 are very large, they do not include all forms of loss under present methods of manufacture and use. Lumbering operations of to-day still continue, although to a much less degree than in the past, to leave inferior trees in the woods, many of which are lost as a result. In naval stores operations there is a very considerable loss of timber which is never salvaged. There is a large aggregate loss through the cutting of large-sized material for pulp and paper manufacture, for fuel, and similar purposes when small sizes and waste material could frequently be used. The use of mill waste for pulp and paper manufacture, in spite of the present shortage of raw material in this industry, is decreasing rather than increasing. These are examples of forms of waste which have not been included in the totals.

On the other hand, there is a very considerable use of material for fuel at sawmills, planing mills, and furniture and other factories, which is designated as waste under the preceding classification. Slabs are sold in greater or less quantity for fuel in a considerable number of sawmill towns, and indeed much material suitable for more valuable uses is consumed in this way.

Not all of the possible means of reducing waste have been considered. Present developments indicate the possibility

of making pulp board from material now wasted in the manufacture of lumber and extending the practice which has grown to such large proportions of substituting fiber for lumber boxes. With greater knowledge of the chemistry of woods in relation to the manufacture of pulp and other products, there promises to be an increasing utilization of waste far beyond anything which we now contemplate.

Better utilization of waste material is a question of first importance in the commercial growing of timber crops. At current pre-war prices, the gross returns from cutting lumber alone would have been \$288 per acre in a mixed hemlock and hardwood stand in Pennsylvania. But additional utilization of hemlock bark for tannin, of mill waste for lath, kindling, or pulpwood, of hemlock tops, of hardwood for staves, and of hardwood mill and woods refuse for distillation, increased the gross receipts to \$569 per acre. The doubling of gross returns in the case given illustrates the way in which close utilization may be made to influence financial returns from timber growing.

The preventable waste of $6\frac{1}{2}$ or 7 billion board feet of lumber each year under present processes is the amount which we are now growing on 170 million acres of forest land.

While, therefore, the waste of wood has an important influence on the returns from the use of land and upon the area required to meet our timber requirements, it bears primarily on the question of timber supply. By eliminating unnecessary waste we can meet our requirements with a smaller drain on the forest, or with the same drain we can secure a considerably larger amount of timber for use.

Substitution to Meet Future Timber Requirements.

Substitutes for wood are gaining ground, and it is often assumed that a large part of our future timber needs can thus be satisfactorily met. In some former uses of wood substitution is now practically complete. The rate at which the use of substitutes for wood is increasing is conservatively placed at 300 million cubic feet a year. Of this, however, one-half is in the form of firewood. Substitutes have tended more to take up the normal expansion in demand for timber due to growth in population and industrial prog-

ress than to lessen the actual volume of wood consumption. If there had not been other materials to take the place of wood, its consumption would have increased at a much more rapid rate. The introduction of substitutes has often been directly due to the growing scarcity of the kinds of wood needed for particular purposes or to the rising cost of lumber. In other cases it has been due to the inherent superiority of the substitute for a specific service, or to a cheapened cost of production which enables it to supplant wood even at its old price.

Obviously, substitutes that replace one material with another inherently superior are economically advantageous; those compelled by shortages and high prices are an economic hardship. It is also true that in the very process of displacing wood from its former use for construction purposes the substitutes have involved new or enlarged uses of wood incidental to their employment. For many purposes wood is intrinsically so well fitted that to supplant it, so long as it can be secured at a price within reason, would be entirely impracticable. On the whole, wood in large quantities is an economic necessity and extensive curtailment of its use would mean a great economic loss and hardship.

Furthermore, as wood is being replaced by other materials in one field, new uses of wood constantly arise in other fields. The extending use of pulp wood not only for paper products of various kinds but also for fiber containers, wall-board, and similar forms of material, and recently even for making actual artificial boards, is one example. The chemical utilization of wood for the production of various by-products is still in its infancy; the next few years may see the use of wood for the production of alcohol on a large scale to take the place of gasoline. Wood is already used for the manufacture of artificial silk, rope, and of carpets and other fabrics. Chemical research is revealing new uses for wood that were not dreamed of a few years ago. The age of wood has not been left behind us—it may well lie ahead of us.

According to computations made by the Division of Building and Housing of the Department of Commerce in 11 States for which reports have been compiled, wooden dwellings range from 59 to 97 per cent of all dwellings in towns with a population of over 2,500 inhabitants. In the rural

sections, which include towns of less than 2,500 inhabitants. dwellings built of wood constitute about 98 per cent. No figures are available as to the percentage of wooden buildings that are now being constructed in the same localities. There is probably some decrease in the number in the urban sections, but not enough to reduce perceptibly the amount of timber used. Even if brick is used, a six-room house, according to the investigations of the Division of Building and Housing, takes three-fifths the amount of lumber required for frame construction. Furthermore, in building with brick, concrete, and steel, much wood goes into scaffolding and frames. Some systems of concrete construction require more wood than would be the case if wood were the permanent material, and require larger timbers to support the concrete in the process of construction than would the building itself if it were all of wood. It is estimated that 15 per cent of the cost of concrete construction is lumber.

The annual normal building in the United States is about 400,000 structures, of which 320,000 are new buildings and 80,000 are old dwellings replaced by new ones. With such a normal annual increase in the number of dwellings, with a present shortage of at least 1 million dwellings, with half of the population still living in rural districts where 98 per cent of all buildings are and will probably continue to be made of wood, with but a very small part of the farms in the United States fully equipped with buildings and the average farm capable of using at once 25,000 feet of lumber for construction, any decline in the use of lumber will be due to inability to obtain it at a reasonably low price. It would take 150 billion feet of lumber, or our present annual cut for four years, to equip fully the farms in the United States.

In the future, just as at present, substitutes will keep down the rate of increase in the consumption of wood by taking its place where wood is less suitable or less economical. On the other hand, new uses of wood that are constantly arising with the industrial development of the country will tend to increase its consumption. In this competition between wood and other materials the price of wood will play a decisive part.

The replacement of firewood by coal, oil, and gas is likely to be large. It is characteristic of many European countries

14

that the consumption of fuelwood decreases as the country, develops industrially. The industrial development of a country presupposes available supplies of coal, oil, and water power—concentrated forms for generating energy—and therefore a lessened use of fuel wood for similar purposes. The use of saw timber, however, increases with industrial development, as has been demonstrated strikingly in the history of the United States. In countries weakly developed industrially firewood may constitute from 75 to 90 per cent of all the wood consumed, while in countries like the United Kingdom saw timber constitutes 98 per cent of the entire consumption.

We shall not in the future be able to maintain even our present standards of living without abundant timber. Growth in population will tend to increase requirements for wood. Substitution and the reduction of waste will, on the other hand, tend to decrease requirements, but it is improbable that they can more than equal the increase in normal demand, if they can do that. Any material lessening of our present drain on the forests of 25 billion cubic feet annually will be under the compulsion of forced economies disadvantageous to the public welfare.

Timber Crops the Solution of Land Use and Timber Supply.

Despite past methods of cutting timber which have largely disregarded the production of future timber crops and despite forest fires which ordinarily have run over the areas from which the timber has been removed, an aggregate of some 250 million acres now bears second-growth stumpage. These stands, largely volunteer though they are, furnish in themselves the key to the solution of our problem of forest land use. The solution is all the more clear because of the failure for one reason or another to use these lands for agriculture. The growing of timber crops will apparently, therefore, solve our problem of forest land use. Can it be made also to solve the problem of timber supply?

Productive Capacity of the Land-Timber Growth.

806

On a total growing area of 250 million acres of forest land the United States is now producing 6 billion cubic feet of wood annually, equivalent to an average of 24 cubic feet per acre annually. At this rate the area necessary to meet our present timber needs would be over 937 million acres, or nearly half of the entire area of the continental United States. This is considerably more than our entire area capable of growing trees, including all farm land. But the present growth is far below the possible productivity of our forest land. It mainly represents chance, natural growth which, without definite provision for its establishment and with limited protection against fire or none at all, has succeeded in establishing itself. Much of this land has too few trees, and the trees are seldom producing wood as rapidly as they might with proper care.

All the data available on the growth of American trees and forest types, checked by European experience, lead to the conclusion that, under intensive forestry, our entire area of 470 million acres could ultimately produce an average of about 58 cubic feet per year to the acre, or a total for the country of 27 billion cubic feet.⁵ Included in this would be 70 billion board feet, or 15 billion cubic feet, of saw timber, seven times the present growth of such material. The total 27 billion cubic feet would exceed our present consumption by $4\frac{1}{2}$ billion cubic feet, but it would exceed the present drain on our forests by the relatively narrow margin of approximately 2 billion cubic feet.

This production, however, can not be brought about in a short time. To make the practice of intensive forestry universal or even the rule throughout the United States will be possible only through gradual progress. It will require the development of scientific knowledge and technical methods of timber growing comparable with what has slowly and at large cost been obtained for agricultural crops. It will require effective protection against fires. It will require methods of cutting the mature timber that assure

⁵ Detailed tables showing by timber regions present and prospective annual growth under crude and intensive forest management of the forests of the United States are given in Table 507, Forest Statistics section of Yearbook. It should be recognized that thoroughly reliable data on growth can be obtained only through much more extensive and detailed investigations than it has ever been possible to make. It is believed, however, that the data used give a fairly accurate indication of both present conditions and future possibilities.

prompt and complete reforestation. It will require the selection and concentration of growth on the best species in each region. It will require cultural operations, such as thinnings, which in European countries yield, and in this country may be expected to yield, a revenue from forest land before the main crop reaches maturity. It will require a cut so regulated that only the mature timber will be taken, and no more than the total growth of the whole forest.

Even if intensive forest management could be applied instantly to the entire area of forest land in the United States, it would take a generation or two to bring about forest conditions as favorable to high production as those now to be found on small areas in this country or over large areas under forest management in Europe. Further, since the timber crop requires several decades to grow to maturity, though a full stand of the right kinds of trees could be started on all our forest land by some magic overnight, it would be 30 years at least before new growth would, under average conditions, attain sufficient size to furnish even low-grade material. In short, with the utmost that can be done many years must pass before we can make our forests produce through growth as much timber as is now yearly taken from them, and a period of shortage is inescapable.

The eight forest regions 6 of the United States which have the largest productive capacity (Fig. 14) are, except the Douglas fir region, overwhelmingly in private ownership. In addition, the eastern spruce-fir and the redwood regions are largely in private ownership. Under intensive forest management these regions could produce about 24¼ billion cubic feet per year. The Douglas fir and other regions primarily in public ownership would produce only about 6 billion cubic feet. A land area which supplies three-quarters (21 billion cubic feet) of our possible wood-growing capacity is now in private ownership and subject to denudation or serious deterioration.

⁶ Fifteen timber regions have been distinguished on the basis of similarity in the character of the forest and its rate of growth in each. They have been named in accordance with the predominant timber species of which they are composed. In certain cases where the rates of growth differ, geographic subdivisions of the regions have been recognized. For example, figures for the Northeast and Lake States are given separately for each kind of forest. The location of the regions is indicated on the map, Figure 1.

The first important step in a necessarily slow process is to put into practice everywhere the simplest measures which will start regrowth on cut-over land. On much of our forest land effective protection against fire will be all that is necessary for this purpose. If so protected a considerable part of the 81 million acres of denuded land will gradually restock with trees. On lands where protection alone is not sufficient to assure a new crop of timber, such additional measures as the reservation of seed trees or small material at the time of cutting will be necessary. These are simple, practical, and inexpensive measures. They constitute a

POSSIBLE INCREASE IN ANNUAL FOREST GROWTH BY IMPROVED PRACTICE.

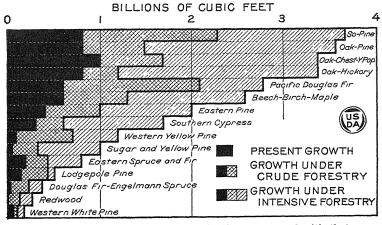


Fig. 14.—The present forest growth is insignificant compared with that possible if timber were treated as a crop. The four largest producing regions are in the southern and central States. (Compare with map of Original Timber Regions, p. 85.)

crude kind of forestry, in that they would provide for at least partial growth on our forest lands. What increased timber production can be expected by 1950 if this crude kind of forestry is immediately put into effect? First, large portions of the present denuded land will seed naturally to forest growth within 30 years. Second, most of the remaining areas of virgin timber will be converted, as they are cut, into young growing stands, and the total growing area can be increased 100 million acres. Many of these areas, however, will have only incomplete growth upon them

by 1950. Third, many of the present second-growth forests would produce wood faster than they are doing now with their vigor and density reduced by periodic fires. On the other hand, considerable areas of rapidly growing second-growth will have been cut, thus tending to reduce the average growth rate.

The net result of the application of a system of crude forestry, consisting chiefly of protection from fire, may thus be put as an approximate increase of 4 billion cubic feet in the current production of wood, or a total annual growth by 1950 of 10 billion cubic feet on 353 million acres. The increase in saw-timber growth under these conditions would be relatively less by 1950 than the total increase. It might amount to $1\frac{1}{2}$ billion board feet, making the total saw-timber growth a little over 11 billion board feet a year. The net wood crop resulting from these primitive measures would still be less than half of our present requirements.

If this inadequate system should be continued indefinitely as the general forest practice of the country, we might expect ultimately a total annual growth of about 14 billion cubic feet, including 26 billion board feet of saw timber. In other words, protection against fire and such first steps as the reservation of seed trees in certain regions, offer only a beginning of the solution of our forest problem. They can be considered as partial expedients and short steps in advance. Intensive timber growing is the only measure which promises to supply our national requirements for forest products.

Figures 15 and 16 compare the present productive capacity of the land with that obtainable under crude and also under intensive forest management.

The growing conditions in the United States are more favorable, on the whole, than those in France, yet French timberland owners have found it profitable to grow timber crops. Private owners who are practicing forestry in France are realizing profits on land which is producing all the way from 10 to 100 cubic feet per acre per year. In the United States the redwood forests will grow well over 200 cubic feet; and the white pine, Pacific coast Douglas fir, and California sugar and yellow pine forests as much as 170 feet. In other words, the forests of the United States can be made fully as productive in timber yields per acre as

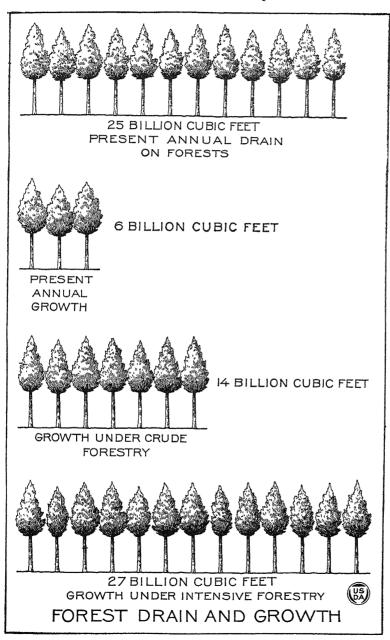


Fig. 15.—The annual drain on our forests is four times as great as the amount of wood grown by them each year, nearly twice as great as we could grow under crude forestry, and almost as great as what we can expect to grow under the most intensive methods on our present forest area of about 470 million acres.

the forests of Europe, where private forestry is considered a profitable business.

The universal experience in other countries indicates that, by comparison with the timber obtained from our present virgin forests, that which will be grown by private owners in the future will be cut when relatively young and small, like the second growth now found on much cut-over land. Under intensive management, however, these forests will make up for the small size of the trees by their greater density, their more rapid growth, and their consequent high yields of timber in comparatively short periods. Young forests under intensive management may often yield at least as much timber as did the original virgin forests.

The high productive capacity of forest lands in the United States is therefore an asset to the private owner. For the country it offers the possibility of meeting or even exceeding our present requirements through intensive methods of forest management.

Productive Capacity of the Land-Financial Returns.

Public agencies such as the Federal Government and the States may, because of indirect benefits, find it profitable to grow timber regardless of whether the balance sheet shows in black or red. But to the private owner the question of profit must always remain a primary consideration. Profitable timber-growing obviously depends, first, upon the quantity and quality of the timber that can be grown, and second, upon the price which can be secured for the product.

A common method of selling timber in the United States is in the standing tree, and the price received for the timber or stumpage in this form is convenient and fairly satisfactory for measuring and comparing returns. For a broad view of the entire country, census reports afford a valuable source of information by giving an average value for all timber manufactured into lumber. Such reports are available for the last four censuses. Average values for all spe-

⁷ Stumpage prices vary with the size and quality of the timber, the stand per acre, the size of the tract and its relation to others in the vicinity, the ease or difficulty of logging, distance to market, transportation facilities, and the bargaining ability and financial exigencies of both buyer and seller. While average stumpage prices are of the greatest importance in indicating the trend of values, and hence whether timber cropping is generally profitable, they can not be directly applied in the appraisal of individual tracts.

cies and all regions rose from \$1.89 per thousand board feet in 1889 to \$2.18 in 1899, \$2.59 in 1904, and \$5.02 in 1919. The total increase was 166 per cent.

Of greater significance are the census reports by States. In Washington, for example, where the bulk of the stumpage is Douglas fir, an average price of 92 cents in 1889 had become \$3.07 in 1919. In Oregon, for the corresponding 30 years, the average price had more than quadrupled, rising from 62 cents to \$2.69. Present stumpage values of south-

SAW-TIMBER CUT, CONSUMPTION, AND GROWTH.

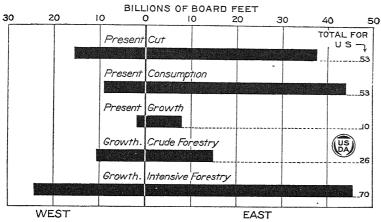


Fig. 16.—Although we are going to the West for more and more of our lumber and other products cut from saw timber, the bulk of the consumption is in the East; and the East should, in the future, grow two-thirds of our saw-timber supply.

ern pine, in an older operating region nearer to the large centers of consumption, run higher. Considering first the southern pine States in which the cut is still largely from virgin timber, the Louisiana average of 94 cents per thousand feet in 1889 had in 1919 reached \$5.95, an increase of more than six times in 30 years. The Mississippi price increased nearly nine times, from 61 cents to \$5.41, and the Texas average from 87 cents to \$5.46.

Second-growth stumpage values in the older southern pine States are, however, most significant, since they are the values placed upon material of the size and quality which we shall grow in the future. Virginia prices in 1919 had reached \$5.63; North Carolina, \$5.64; and Maryland, where hardwoods as well as second-growth pine are involved, \$7.42. The pine values in all three States are higher than for either Mississippi or Texas.

Minnesota prices, dominated by remaining virgin white and Norway pine stands, had reached \$10.08 in 1919, but New Hampshire and Massachusetts prices, dominated largely by second-growth white pine less than 50 years old, had reached \$10.36 and \$8.33, respectively. Indiana hardwoods tripled in the 30-year period, with values increasing from \$5.03 to \$15.59 per thousand board feet.

The census averages are made up from reports of individual operators who estimate the value of the timber which they cut. A more satisfactory check on values is perhaps afforded by the prices actually paid for standing timber in sales. The Forest Service has therefore secured data on as many individual timber transfers as possible in several important virgin and second-growth regions. It is obvious that averages thus obtained may not be the same as the census figures and are not exactly comparable with them. These sale averages are shown in Figure 17.

PRICES OF SECOND-GROWTH AND VIRGIN STUMPAGE.

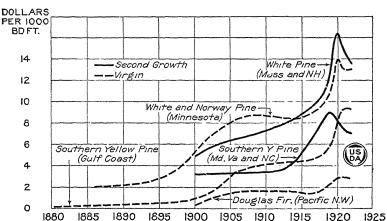


Fig. 17.—The high price of second-growth timber is making timber growing on private land profitable in many places. Second growth, though usually smaller and of lower quality than virgin timber, when nearer to markets often brings a higher price. Small second-growth white pine in Massachusetts and New Hampshire since 1900 has brought on the average five times as much on the stump as the very large and high-quality Douglas fir of the Pacific Northwest.

The value of Douglas fir, with more remaining timber than any other species, with many inaccessible stands and in a region far removed from the large centers of consumption, is still relatively low. As late as 1900 its value ranged between 25 and 50 cents per thousand board feet, and even lower. Values rose steadily until about 1907, when they had reached an average of from \$1.25 to \$1.75. During the ensuing depression in the lumber industry, stumpage values held substantially without change until the influence of the war increased all prices. The pronounced increase beginning in 1916 had in 1921 reached a level between \$2.75 and \$3 per thousand feet.

Virgin southern yellow pine in the Gulf States sold in 1900 for 75 cents to \$1 per thousand feet. Even this low value followed a slow but steady increase from 1880, when timber was ordinarily sold by the acre and stumpage values were little if any more than 10 cents a thousand. Pine values, however, have for obvious reasons climbed much more rapidly than fir. In 1915 they ranged from \$1 to \$6 and averaged approximately \$4.50, but in 1920 they had reached an average of \$9.50, with a range from \$3.50 to \$11.50. At present relatively little stumpage is being sold, or higher values might obtain for the better timber.

White and Norway pine in Minnesota command the highest values for virgin softwood stumpage disclosed in this investigation. The averages are based on sales made by the State of Minnesota and by the General Land Office from Values in 1886 averaged \$2, with Chippewa Indian lands. a range from \$1 to \$3. There was a steady but slow increase up to 1893, when white pine production in the Lake States began to fall off. From that time until 1919, with the possible exception of less than a decade between 1908 and 1915, values climbed steadily and rapidly. In 1920 the average was about \$14, with a range of from \$10 to \$17; in an extreme case \$25.30 per thousand feet was paid. Since 1920 prices have dropped slightly, but have again started to rise. Not too much dependence, however, can be placed on minor fluctuations during the last two or three years because of the relatively small volume of material sold.

Compared with the prices of 20 or even 10 years ago, current values for virgin fir of \$2.75, for southern yellow pine in the Gulf States of \$9.25, and for white and Norway pine of \$13.25 seem high, but when compared with the rise in the values of second-growth stumpage in some of the older timber-producing regions, the increase is not so striking. It is to the second-growth prices that we must turn for the best indication of returns in timber growing, for the second-growth stands are the forests of the future.

The portion of the southern vellow-pine region first extensively cut extends from Maryland through North Naturally this younger second-growth timber Carolina. occurs in smaller sizes than the virgin stands of the Gulf States, but it has the advantage of being nearer the large consuming markets of the North. The values are based largely upon small sales, chiefly from farmers' woodlots. The average value of this second-growth pine in 1900 exceeded \$3. It ranged from \$1.25 to nearly \$5. Values held substantially on a level, with minor fluctuations, until 1913. Then they climbed rapily under the stimulus of war demand until 1919, when the average was around \$9. The range in 1919 was from \$4 to \$12; in extreme cases sales at \$14 were reported, and rumors of even higher prices are prevalent. Stumpage values in this region, possibly because of the smaller amount of data available, seem to be subject to rather violent fluctuations, and in 1921 average values had apparently dropped to about \$7 with a range of from \$2.50 to \$12. The increased demands of the last year, however, have again started values upward. The significant fact from the standpoint of growing timber crops is that secondgrowth stumpage, mostly stands less than 60 years old, in the Maryland-North Carolina region sells in the open market for surprisingly little less, and at times has sold for more, than the virgin timber of the Gulf States.

It was possible also to secure data on spruce saw timber in Maine. This timber averaged between \$2 and \$2.50 per thousand feet from 1866 to nearly 1900, ranging between \$1.25 and \$4. Since 1900 there has been a steady and remarkable increase, until now spruce ranges in the majority of the sales between \$6.50 and \$11, and averages about \$8.25.

Sales as high as \$12 per thousand feet are reported. In the last two decades values have tripled.

Second-growth pine stumpage in Maine tells the same story, but prices have not reached the same levels as in Massachusetts and New Hampshire. In the latter States white pine sold in 1900 for around \$4. With slight breaks the curve of average values climbed steadily until in 1920 the average value of second-growth stumpage in this region reached about \$16.25 a thousand feet. The range was from \$11 to \$22 and prices in extreme cases were as high as \$25. It is clear, therefore, that in central New England we have second-growth stands, largely accidental, of uncultivated timber crops, selling through periods of several years for the highest stumpage prices actually paid for softwoods anywhere in the United States. Furthermore, these prices are paid on a degree of use as complete as in many parts of Europe, and the footages secured per acre frequently exceed all except the heaviest virgin white pine stands. The State forester of New Hampshire reports that 50 per cent of the stands in that State for which these prices are being paid do not exceed 30 years of age.

No one can predict future values with certainty, but the past history of stumpage prices of all species and all regions, European and American alike, has been one of almost uninterrupted rise, and we have ahead of us increasing timber shortages as compared with the certain demand for forest products. The pronounced rise in stumpage values for practically all regions and all species has occurred since about 1900, coincidently with the falling off of Lake States production and the growing realization that our virgin timber stands were not inexhaustible. The private owner who hesitated to start growing white pine in New England when stumpage values were \$4 per thousand feet need hesitate much less in 1922 when values for the same material have reached \$12 to \$16.

The stumpage prices paid for hardwoods in Indiana, Ohio, and southern Michigan have been even more remarkable. The relatively few records of sales do not warrant any statement of averages. The prices are for timber from culled stands, including also strictly second-growth material of such species as hickory and ash. Values in a few sales

of the pre-war period indicate flat stumpage prices for stands of the common hardwood species such as poplar white and red oak, basswood, ash, elm, beech, etc., running from approximately \$16 to \$18 per thousand feet. Selected trees of oak and poplar brought between \$34 and \$35 per thousand feet. War and postwar prices have been much higher. War prices for ash ranged from \$80 up to even \$200 a thousand in an extreme case. Log prices f. o. b. mill were as high as \$120 a thousand in 1920. Offers of \$20 a thousand on the stump for ash 12 to 16 inches in diameter and \$50 for a small quantity of ash were refused in 1921. Ash logs in 1921 brought \$75 per thousand f. o. b. mill. Oak veneer logs f. o. b. mill in 1919 and 1920 brought from \$100 to \$200 per thousand. Lumbering and transportation costs to the mill averaging probably \$15 per thousand must, of course, be deducted from these log prices to secure stumpage values.

High second-growth stumpage prices result largely from the growing scarcity of local timber supplies in regions of large consumption and from the freight which lumber from regions still cutting virgin stumpage must pay. Southern pine from the Gulf States, for example, now pays a rail freight of \$16 per thousand into New England, and Pacific coast fir pays a rail freight of \$25. With such freight, a \$14 white pine stumpage is not surprising, even though it cuts only relatively low-grade timber; neither is \$7 stumpage for North Carolina pine with approximately \$7 lower freight on lumber than from the Gulf States to such important consuming markets as Philadelphia and New York.

A further indication of the real significance of current stumpage prices in the United States in relation to profitable timber growing may be secured from a comparison with the stumpage prices in Europe under which timber crops have been grown for the last century or more by both public and private owners. Although open to obvious objections, it is necessary to cite pre-war European prices. It is obviously out of the question to compare present or pre-war American with present German prices. It would be difficult also because of fluctuating exchange and inflated currency to make any satisfactory comparison with present French prices. At best a comparison between American and

European values is difficult because of the difference in utilization.

Prior to 1912 good saw timber in the Pyrennees was sold by the French communes at a stumpage of 67 cents per thousand board feet. Difficult logging and transportation explains this exceptionally low price. Pre-war stumpage prices in France averaged from \$11 to \$15 per thousand feet for spruce and fir; \$9 to \$10 for maritime pine; \$12 to \$13 for Scotch pine; \$24 to \$55 for oak. Cordwood in the Vosges sold for less than \$4 per cord.

Pre-war stumpage prices in Prussia were about \$18 per thousand feet for oak, \$10.50 for beech, \$12.50 for spruce, and about \$10 for pine. In Wurttemburg the stumpage price of oak was \$31.50 and for conifers \$17.50. On the average for Germany as a whole stumpage prices were not essentially different from those prevailing in France before the war.

Of perhaps greater interest because of greater similarity in economic and forest conditions are the stumpage prices of the Baltic countries, particularly Sweden. Pre-war spruce and pine stumpage was \$9 per thousand feet on the basis of Swedish utilization, which is 150 cubic feet per thousand board feet.

It is clear, therefore, that present stumpage prices of both conifers and hardwoods in several sections of the United States, particularly on second-growth, have already reached or passed the pre-war stumpage prices of France, Germany, and Sweden. American prices, barring the period of inflated European currency, have increased much more rapidly than European prices. This is particularly true since 1900. There is little reason to expect that the dwindling cut of southern pine can have any effect on stumpage price levels different from that of the falling cut of northern pine 20 years ago, and any further increases which this may bring will establish still more firmly the possibility of profitable timber growing.

Probably more is to be learned in New England of the possibilities of profitable forestry than in any other region of the United States, because there cutting began earliest and through the play of economic forces, favorable climatic conditions, and prolific tree species the nearest ap-

proach to the growing of timber crops has been made. But unqestionably in a number of other forest regions in the United States economic conditions even now are almost equally ripe for timber growing. These regions include much of the southern pine belt, parts of the Lake States, and even sections of the West. It would not be surprising if the redwood belt, with its wonderful rapidity of growth, were to prove the most profitable timber-growing region of the United States.

A few examples, selected more or less at random from a variety of sources, illustrate concretely the profitable white pine forestry of to-day in New England. Second-growth pine stands in large part naturally seeded, in a much smaller part planted, have occupied many abandoned fields in central New England. These pine lots surround the manufacturing towns with which New England is filled and supply ideal box material for the shipment of its factory products. No attempt has been made to secure average figures, but New England abounds in examples.

The first case illustrates a measure of forestry. A pine lot in southern New Hampshire was cut over in 1887 to an 8-inch diameter limit, yielding 100,000 feet of pine, which at \$4 or \$5 stumpage, or about \$56.25 per acre, was sufficient to clear the cost of the land and accrued taxes and yield a good profit. A careful cruise last year shows a stand of 75,000 feet to the acre, which will cut a large percentage of high-grade material, and for which offers of \$20 per thousand, or \$1,500 per acre, have been refused. While this showis better than the average, it is not exceptional in the pine region of New Hampshire, Massachusetts, and Maine.

Three acres in a second New Hampshire lot were purchased in 1877 and planted with white-pine seedlings dug up from neighboring fields, at a total cost for land and planting of \$11.66 per acre. This lot was sold in 1897 for about \$100 per acre; in 1912 it was sold again for \$333.33 per acre; and in 1922 it is held at \$566.66 per acre. This represents a yearly average increase in value of \$12.33 per acre, or more each year than the original investment, which was unusually large because of the cost of planting. Under the present "full valuation" New Hampshire law, taxes are now some-

where near the average annual increase in value, and the advantage, if any, of holding the stand for a future cut will be the production of high-quality material which will command much higher stumpage prices. As a result of this law, most New Hampshire stands are reported as being cut at an earlier age than in adjoining States.

A few additional cases will be summarized in the briefest form to give a more complete picture. About 1917, \$11,500 was paid for 18 acres of 60-vear-old Massachusetts pine of natural origin. A short time ago \$1,000 was paid for 3 acres of planted 40-year-old pine. A natural 80-year-old pine stand of 2 acres in Vermont is reported to have cut 170,000 feet and to have sold at \$2,000 for the stumpage. These three stands yielded \$11, \$8, and \$1250 per acre per annum in stumpage returns. A Massachusetts stand bought for \$6.25 per acre in 1905 returned \$105 in stumpage alone in 1921. Another Massachusetts stand bought for \$18.88 per acre in 1895 returned \$311.11 in 1916 in stumpage alone. These two stands yielded \$6.17 and \$13.91 per acre per annum in stumpage above the original purchase price. In the latter case the annual tax rose from about 16 cents per acre at the time of purchase to about \$1.90 at the time of cutting, so that it did not constitute a burden.

While most of the second-growth white-pine stands are of natural origin, planting dates from about 1820 and has become common. In the early days seedlings were frequently obtained from adjacent fields or woods. To-day planting stock is being furnished at cost by a number of State nurseries and can be secured also from a number of commercial nurseries.

A report by the Massachusetts State Forest Service published in 1915 indicates in a striking way the results of some of the earlier plantings. Plantations from 30 to 40 years old show an average yield of 21,910 board feet to the acre; from 40 to 50 years old, of 32,726 board feet; and from 50 to 60 years old, of 41,186 board feet. At the 1915 average stumpage value of \$8 per thousand, the cash returns per acre 35 years after planting would be \$175.28; 45 years after planting, \$261.81; and 55 years after planting, \$329.49 per acre; while at the 1922 average stumpage value the cash returns would be for the same periods \$306.74, \$458.16, and

\$576.60 per acre, respectively. Deducting the total costs for these periods (reckoned at \$5 per acre for the land, \$12 for planting, estimated taxes on both land and timber, and compound interest on all outlays at 5 per cent) the average net return per acre at the 1922 stumpage value would be: at 35 years, \$194.86; at 45 years, \$238.95; and at 55 years, \$184.84.

Stands 55 years old should command a value decidedly above the average because of the higher quality of lumber they will yield, but no allowance was made for this. In any case, there is a comfortable margin above costs and interest at a current stumpage value of \$14. Also, these stands had to carry a heavy initial planting cost which under good methods of cutting could probably be eliminated.

There is another consideration. Profitable thinnings in growing timber are to the forester a matter of prime importance. If they can be made, it means a series of returns between reforestation and the final harvesting of the crop. Such intermediate returns ease the burden of relatively long-term carrying charges before the final cutting, and, rightly conducted, stimulate growth so that the final yield is improved in quality as well as increased in quantity.

Comprehensive data which will show in any conclusive way the average yields which can be secured from thinnings in different sections of the country and the net financial returns from such yields are not in existence, but a few examples from various Eastern States show that they can be made profitably. In Massachusetts a white-pine stand partly 34 and partly 53 years old, thinned in 1908, afforded a stumpage return of \$20 per acre. In New Hampshire three successive thinnings of white pine in the age period between 35 and 50 years took out 10,498 board feet, afforded a return of \$114.48 per acre, and left 15,722 board feet of timber in the growing stand. Three other white-pine stands in New England made showings as follows:

Age.	Amount cut.		Amount left.	Returns per acre.	Stumpage.	
28 50 60	7,000 4,500	Cords.	42, 000 25, 500		\$1 per cord. \$10 per M board feet. \$5 per M board feet.	

Reports of thinnings made around New Haven, Conn., indicate that sprout hardwood stands can be profitably thinned in that region and may yield from 4 to 10 cords of fuel wood an acre in stands from 25 years of age upward. Average stumpage returns have varied from \$8.12 to \$10.50 an acre.

From a 40-year-old hardwood stand in New Jersey seven cords were cut per acre, leaving 18 cords in the stand. With stumpage at \$1.50 per cord, the net return from the thinning was \$10.50 per acre. A New Jersey hardwood stand was thinned of 12.6 cords, leaving 15.4 cords, at a profit of \$15 per acre. Another yielded a profit of \$45. And a Maryland stand of loblolly pine, thinned when only 14 years old, yielded 11 cords of wood, affording a return of \$11.50 per acre, while leaving 15.5 cords of wood on the land to grow.

In the cases given, therefore, the returns ranged between \$8.12 and \$114.48 per acre, the latter including a series of three thinnings.

The sale of timber need not constitute the only money returns from the forest. In some regions live-stock grazing and timber growing can be combined if grazing is so regulated as to prevent material damage to young tree growth. On the National Forests the receipts from grazing amounted in 1921 to about \$2,500,000. Longleaf and slash pines in the South can produce naval stores before lumbering. a good stand of virgin timber an income of \$16 to \$17 per acre per year is easily possible during three to five years of turpentining under current commercial standards. From a poor timber stand returns of \$3 to \$4 a year are obtainable, and \$8 to \$10 per acre is a fair average for the South as a whole. Large progress has already been made in improving. the methods of naval stores production, and better methods should at least prolong the period of obtaining profitable Receipts from the leasing of summer home and camp sites, hunting and fishing privileges, and other recreational facilities are further examples of possible returns from forest properties while a timber crop is being grown, which may in part or altogether offset carrying charges.

Entirely aside from such incidental receipts the examples given of final returns and of the intermediate returns from

thinnings illustrate that in many localities, and conspicuously in New England, timber production on private lands is already very profitable. The timber crop is proving the salvation of many a New England farm which has been pushed to the wall in agricultural competition. True it is that in the majority of cases farmers allowed their fields to grow up into trees because they could not farm them profitably, could not sell them, and did not know what else to do with them. The play of forces long misunderstood has finally classified as forest land much of the farm acreage which after several generations of cultivation can not profitably produce agricultural crops. Owners have of late been slowly waking up to the fact that all unawares and without effort such land has often grown a very profitable timber crop. They do not yet realize that it would have been a still more profitable crop if they had known how to grow it to best advantage. This is not the entire story, however, for in the aggregate a very considerable area has been planted to white pine and other forest trees throughout New England. By inference, the possibilities in other regions are favorable, and in a far greater degree than has generally been realized.

It should be remembered that the second-growth timber crops of New England now being cut were started by 1890 at the latest. Pennsylvania was at that time cutting a large amount of virgin timber, the Lake States were in the crux of their fiercest competition with the South, and the crest of the southern pine cut had not yet been reached. There is no reason to think that the owner of timberland of to-day in any region of rapid growth in the United States is taking more chances on future returns from wood crops than did the New Englander of 30 or 40 years ago. On the contrary, all the facts as to our remaining timber stands, the rate at which they are being cut, the probable duration of the virgin supplies remaining, and the disparity between market demands and the second growth already started, point to opportunities for still greater profit in timber growing.

The hazard of loss from fire is sometimes a deterrent to the production of timber crops by private owners. While

the private owner must assume some risk from this source and must expect to pay a reasonable cost for protecting his own property, it is being recognized more and more that an obligation rests upon the public to assist him. From year to vear publicly supported protection of forests against fire is being extended and its efficiency improved. This whole movement has come about largely during the last 20 years. The recognition of the value of second-growth stands is in itself acting as a powerful stimulus. White-pine wood lots in New England are worth, for example, up to \$500 an acre, and no owner with timber of this value can be indifferent to the fire hazard. There is also the bugaboo of forest taxation, far more important in most timber regions and States on account of its future uncertainty than because of its present burden. In the New England States, for example, with the exception of New Hampshire, which under existing law taxes forest lands as nearly as possible to their full value, taxes on timberland are seldom burdensome.

The public, however, has a very direct and important obligation in the solution of the taxation question. By solving this question and assuming a fair share of the burden of fire protection, it will also help to remove two of the principal uncertainties in profitable timber growing.

Balancing Future Requirements and Production.

To summarize what has been shown in previous sections: Wood requirements normally increase with industrial progress and with growth of population. In our own case it seems probable that this tendency will be largely offset by (1) a gradual substitution of other materials, and (2) closer utilization, the saving of waste, the prevention of decay, and the reduction in losses of buildings and other products through fire. Imports from abroad may help out certain local shortages, as in the case of pulpwood, but can not be expected to cover any large deficit. We shall need continuously not materially less wood than we now yearly take from our forests.

Consideration of the remaining virgin timber, the present stands of second-growth, the present rate of cutting,

and the present rate of replacement leads to the conclusion that we face a period of stringency and reduced per capita consumption. This period has, in fact, already begun for high-grade materials, as indicated by reduced consumption and higher prices.

As the virgin supplies are exhausted we shall become more and more dependent upon the amount and character of the timber we actually grow. This dependence, at the present time, would mean a reduction in our annual use of wood from 22½ to 6 billion cubic feet. By the simplest measures, consisting mainly of fire protection, we can ultimately produce on our present area of forest land a quantity sufficient (14 billion cubic feet) so that it would be necessary to reduce the present consumption by somewhat less than half. By intensive forest culture we can balance or even increase our present consumption of wood.

A part of the present area of forest land can be utilized only for timber growing. On a part, however, timber growing must compete with agriculture. Profits obtainable from timber crops will increasingly induce landowners to devote the poorer agricultural lands to this use. The resultant of conflicting forces, which may be summed up as the relative needs of the country for food and timber, will probably be an area of land devoted to timber-crop production approximately equal to the present total of 470 million acres. Upon this we can, if we so desire, produce sufficient timber to maintain reasonable standards of living indefinitely.

The Progress of the United States in Timber Growing.

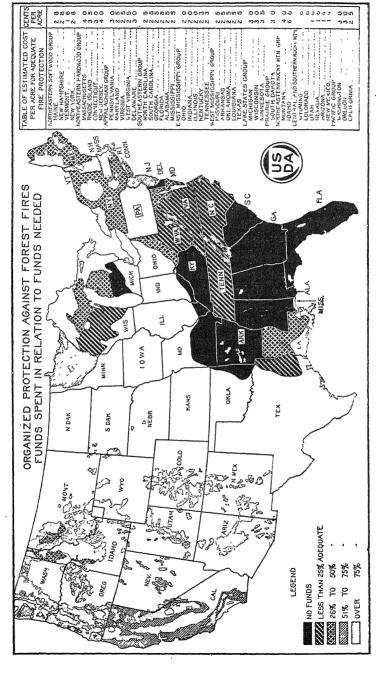
To complete this survey of the transition of the United States from timber mining to the production and harvesting of timber crops, it remains to summarize the progress to date in timber growing. The more significant facts in the present situation from this standpoint are (1) the character of forest land ownership, (2) the protection of forest lands from fire, insects, and disease, (3) the adjustment of tax laws to timber crops, (4) the management of forest lands with a view to continuous growth, and (5) the progress in forest education and research.

Forest Land Ownership.

The nature of forest ownership is important from the standpoint of stability, permanency of interest in the land as distinct from merchantable stumpage, and ability to carry timber crops through the periods required to produce commercial products. Of the 470 million acres of forest land in the continental United States, approximately 89 million acres are owned by the Federal Government, 8,700,000 acres by the States, and 450,000 acres by municipalities. holdings, which aggregate 21 per cent of the total, represent the most stable forest ownership in the country and that most favorable to the continuous production of timber crops. It should be noted, however, that 51 million acres of federally owned forest lands in the unreserved public domain and 13 million acres of State-owned forest land not included in State forests or parks are still without policy or management with a view to timber production and indeed are partly without protection from forest fires. In addition to the areas given, the National Government owns probably 70 million acres of commercial timber or timber-growing land in Alaska, of which 20 million acres are in National Forests while the remainder, in the open public domain, receives no protection from fire and no attention to timber growth.

Of the 371 million acres in private ownership, 79 per cent of the timber-growing soil of the country, approximately 150 million acres are farm wood lots—a relatively permanent form of ownership and one capable, economically, of rapid development in systematic timber cropping. The remaining 221 million acres represent the holdings of land and lumber companies, mining companies, railroads, and other owners having, in the vast majority of cases, no permanent interest in the land except as timber growing may offer commercial profit.

During the past 11 years approximately 2 million acres of forest land have been purchased by the National Government, under the act of March 1, 1911, for the protection of navigable streams; and approximately 8 million acres of forest land have been acquired by States and municipalities. The progress in stable forms of forest ownership favorable to timber growth has lagged far behind the rate of forest denudation.



Twenty seven States have organ-In the South, one of our most important forest regions, eight States Fig. 18,--A little more than half our forest area receives more or less adequate protection from fire have no protection, and the test have wholly insufficient protection. ized protection, and practically all Federal lands are protected.

Protection of Forest Lands.

About 54 per cent of our forest area receives more or less systematic and adequate protection from fire. This includes the 95 million acres in national and State forests, national parks, and Indian reservations, and around 160 million acres in private ownership. The national and State holdings are protected mainly by direct public appropriations: the private forest lands chiefly by Federal and State agencies in cooperation with each other and, to a considerable degree, with the owners of the land.

Thirty-nine States contain important areas of forest land. Twenty-seven of them have organized State forest protection on a more or less adequate scale. Approximately \$3,300,000 is now expended annually for the protection of the forest lands in private ownership, of which State appropriations or special taxes furnish \$1,930,000, the Federal Government furnishes \$400,000, and private land owners contribute \$1,000,000—an amount often increased during seasons of special hazard. At least 166 million acres of privately owned forest land on which systematic fire protection is the first essential step to continuous timber growth now receives no protection, and on many other areas the protection furnished is incomplete and inadequate. An average vearly expenditure of between 2.5 and 3 cents per acre, or a total of \$9,250,000, would fairly protect all of the privately owned forest land in the United States. The task is at present two-thirds undone. The status of fire protection is indicated graphically in Figure 18.

During the last six years an average of 33,500 forest fires has occurred annually, burning over more than 7 million acres of forest land.³ Fifty per cent or more of the total loss in 1921 occurred in the South, where eight States have no organized forest protection and the rest have wholly insufficient protection. Fire, which goes hand in hand with destructive logging, has through repeated burning of young trees been the chief means of keeping the forest growth in the United States so far below the current drain upon our timber. Moreover, it has been responsible primarily for the lowered productivity of immense areas of forest soil.

 $^{^{\}rm s}{\rm A}$ detailed statement will be found in Tables 500 and 501, Forest Statistics section of the Yearbook.

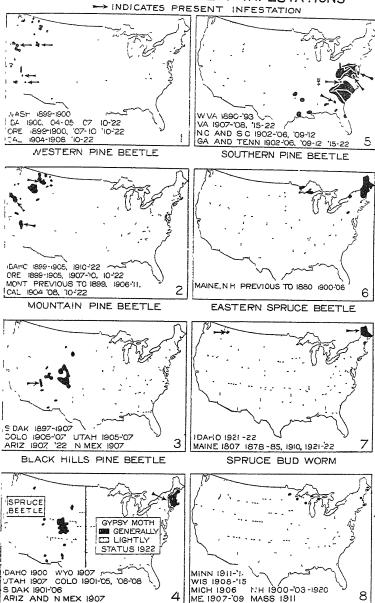
Notwithstanding the losses still incurred, forest protection has made enormous strides during the last 12 years. This is due largely to the general awakening of the country to its forest problem, including the realization by timber owners of the necessity of preserving their merchantable stumpage. It has been aided by the cooperation extended by the Federal Government in protecting the watersheds of navigable streams, which during this period has stimulated the efforts of 15 additional States and enlarged the area of private forest land receiving protection from 59 million to 160 million acres.

Forest fire protection still varies widely in efficacy and in methods of financial support. A majority of the States defray its cost chiefly by general appropriations; a few, like Maine and Louisiana, levy special taxes upon timber or forest land for the purpose; while others, notably Oregon and Washington, require the landowner to meet the expense of a fire patrol.

The protection of forests and forest products from insects is of scarcely less importance than their protection from fire. Losses due to insect attacks upon living trees and crude, finished, and utilized forest products are estimated by the Bureau of Entomology at \$130,000,000 annually. The Bureau of Entomology has made notable progress during the past 20 years in determining the life history of forest insects, in devising methods of checking them, and in meeting emergencies by educational work and systematic control measures.

Cooperative insect control on a large scale is at present being undertaken on Federal, State, and private lands on the Pacific Coast and Rocky Mountain forests. Over 1 million acres of land and over 11 billion board feet of yellow-pine timber, with a stumpage value of over \$25,000,000, are involved in a single contract project. During the past 10 years the western pine beetle has killed on this area over 1½ billion board feet of the best trees, with a stumpage value of more than \$3,000,000. The Bureau of Entomology estimates that the cost of bringing this insect under control will be less than \$150,000. The location and extent of the present and more recent infestations are indicated in Figure 19.

PRINCIPAL FOREST INSECT INFESTATIONS



MAPS 1-6 TREE-KILLING DENDROCTONUS BEETLES MAPS 4,7,AND 8-DEFOLIATING INSECTS

LARCH SAWFLY

ENGELMANN SPRUCE BEETLE (IN WEST)

GYPSY MOTH (IN EAST)

Fig. 10 __Tracbilling incoses wearly take a large tall on our forests and in

164 Yearbook of the Department of Agriculture, 1932.

It also estimates that in addition to the appropriation for research and for fighting the gipsy moth in New England, expenditures for fighting tree-killing insects in the whole country do not exceed \$75,000 annually, while the amount

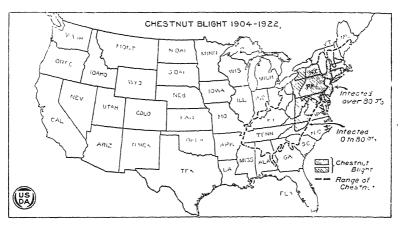


Fig. 20—Chestnut blight has already wiped out chestnut over a large part of its range

required by Federal, State, and private owners to get definite results need not exceed \$500,000 annually.

Forest trees, like any other crop, are subject to the attacks of fungi. "Infantile" diseases such as damping-off are a large factor in the destruction of seedling trees. At all ages trees are subject to girdling, canker diseases, root rots, etc., while after maturity heart rots rapidly reduce the timber content of the living tree. Structural timber and other wood products rot through the action of fungi.

Marked success has been obtained in controlling the diseases of forest-tree seedlings in nurseries, such as damping-off. Rotting of wood products has proved amenable to various preservative treatments and to improvements in methods of location and storage. The age limits of the serious development of decay, beyond which a stand of trees can not be profitably held, have been determined for the few trees so far studied.

By far the most serious menace of disease to forest crops at the present time lies in the imported epidemic. The chestnut blight, imported from eastern Asia on nursery stock in the early nineties, has all but exterminated this useful tree

Some adjustment of the general property tax to meet this situation has been widely recognized as legitimate and desirable.

Prior to 1910, 26 States and subsequently three others made various attempts in this direction, usually in the form of optional rebates, bounties, or exemptions to induce tree planting or the maintenance of productive forests. These efforts have brought no substantial results, partly because of inadequate inducements offered, partly because of insufficient provision for local public revenues, partly because of uncertainty that timber-growing would pay. An outstanding present need is a system that will defer the principal burden of taxation on growing forests to the time of harvesting the crop without being inequitable to other taxpayers or materially curtailing local revenues.

Within the last dozen years 10 States have passed special forest taxation laws, most of which embody the so-called "yield tax." This taxes the land annually, but the timber only when cut. Some of these laws continue the "inducement" feature in the form of nominal or very low valuations of the land, and all take effect only if the owner "registers" or "classifies" his land. The whole matter is still in an experimental stage. Its ultimate solution should be a rational and equitable scheme that will embrace all forest land and take effect automatically.

Management of Forest Lands.

Hitherto second-growth timber has been mainly a "wild-land" crop. During the past 20 years these wild crops of wood have furnished an increasing part of the softwood cut in the Eastern States. Their inadequacy is apparent from the broad fact that, taking the country as a whole, they offset but one-fourth of the current drain upon our timber supply. They represent an even smaller fraction of the timber crop which our forest land is capable of producing. The real measure of the progress of the United States in timber growing is the extent to which the management, or care of forest lands is purposely adapted to securing continuous crops of wood.

Fifty-four per cent of our aggregate forest area now receives a fair, or at least partial, degree of fire protection.

This is the starting point in forest practice and indeed on many areas alone suffices, if effective and continuous, to produce a valuable timber crop.

The 80 million acres of timbered and young growth lands in the National Forests constitute the largest area in the United States under a form of management designed specifically to secure complete reforestation of cuttings and a continuous yield of forest products. When fully utilized these lands are capable of furnishing continuously from 6 to 8 billion board feet annually of saw timber, pulp wood, railroad ties, and like products, or from one-sixth to one-fifth of our present total cut of similar material. They are, however, still largely virgin timber. Their administration provides for (1) a cut limited to what the land can grow and having in view a sustained yield; (2) restocking of cut-over areas through natural reproduction; (3) additional protection of cut-over areas through slash disposal; and +4) replanting old burns and other idle forest lands.

Of State forest holdings around 80 per cent, or 7 million acres, and of municipal forests 50 per cent, or 225,000 acres, broadly speaking, are under forms of management which provide either for continuous growth or for preserving the present stands. On the 79 per cent of our forest land in private ownership, however, the aggregate showing is still very small. A striking advance has been made in New England and parts of the Middle Atlantic States, where high timber values and opportunities for exceptionally close and varied utilization have given a tremendous impetus to the plan-wise growing of timber crops. It is estimated that onesixth of the forest area of Massachusetts is under some intensive form of timber culture; and the Northeast furnishes many striking examples of forest properties, large and small, which have long maintained almost unbroken timber growth, the equivalent practically of a sustained yield. Elsewhere the intentional growing of timber crops on private land is as yet almost negligible. Instances of its being undertaken, however, on both woodlots and large commercial tracts, in the southern pineries, the central hardwood region, and the Lake States are becoming more numerous. Rising local stumpage values are slowly but inevitably creating a commercial basis for the timber crop; and landowners are

responding to this economic opportunity. A most illuminating development is the decision of owners in the redwood belt of California to capitalize the exceptionally favorable growth conditions in their region by reforesting their old cuttings.

About one-third of our forest land area, 150 million acres, is owned by farmers. A majority of these wood lots have undergone a process of gradual deterioration or extinction. On many others, however, crude but often effective methods of cutting have been employed which result in renewed forest growth. The farmer is usually a permanent owner of such land. His business deals with crops and the timber crop idea should not be difficult for him to acquire and apply. Farm wood lots probably now produce not more than a third of the timber which they are capable of growing. They can be made a permanent and profitable asset of the farm and an important national source of timber.

Forest planting has as yet played a negligible part in restoring the balance between the drain upon our timber and the current production of wood. (Fig. 22.) It has, however, been widely stimulated by State forest policies and by State and Federal educational work. Its extent is increasing. A number of States have made notable prog-

FOREST PLANTING COMPARED WITH FOREST DENUDA-TION.

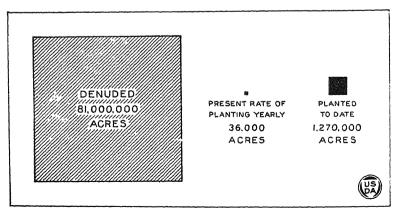


Fig. 22.—Forest planting, though an indispensable branch of forestry, is far from being an offset to forest denudation.

ress in planting State lands and encouraging tree planting by private owners through the distribution of nursery stock. Planting denuded lands in the National Forests, estimated at $1\frac{1}{2}$ million acres, has proceeded at a snail's pace owing to limited funds for this purpose. The following table indicates that nearly $1\frac{1}{2}$ million acres of land have been planted with forest trees to date, by far the larger part of which has been done by farmers and owners of estates. The area now planted annually amounts to nearly 36,000 acres.

Forest planting in the United States

	Area planted.	Per cent of total.	Area now being planted yearly.	Per cent of total.
	Acres.		Acres.	
Federal Government	180,000	12, 4	7,500	21.6
State governments	86,104	6.0	7,052	19 7
Farmers and estate owners	1,085,687	75.0	13,791	38.6
Large timberland owners and operators and				
wood-using industries	20,275	1.4	1,678	4.7
Railroads	15,007	1.0	1,010	2.8
Pulp companies	8,600	.6	1,241	3 5
Mining companies	3,375	.2	426	1.2
Municipalities	33,715	2.3	1,375	3.8
Other	15, 478	1.1	1,700	4.7
Total	1, 448, 241		35, 773	

See also Tables 505 and 506, Forest Statistics section of Yearbook.

The educational activities of public agencies may fairly be credited with a substantial part of the progress made in private timber growing. Forestry is now an organized activity in 32 States, and through these agencies as well as through the Federal Forest Service the education both of the public and of the landowner is being widely extended. Aside from educational activities, the chief lines of development in State forestry have been: (1) Establishing forest nurseries that grow stock both for planting State lands and for distribution to private owners, and that now have a capacity of 55 million plants yearly; (2) creating State forests and managing them for continuous timber production; (3) organizing and maintaining, with the cooperation

of the Federal Government to a limited extent, a protective system against forest fires over approximately 160 million acres; (4) passing and enforcing legislation for the prevention of forest fires through precautions enforced upon railroads, land clearing, etc., and through the disposal or diminution of logging débris; (5) passing and administering special laws for the taxation of forest lands by classification or otherwise; (6) controlling methods of cutting to insure reforestation. This is a recent development, limited as yet to New Hampshire and Louisiana, which require the reservation of seed trees in cutting pine timber.

The following table attempts a rough appraisal of our national progress to date in the use of forest land for growing real timber crops. Possibly one-fourth of our forest soil is now managed more or less definitely from the "crop" viewpoint. This is comprised largely of Federal holdings, supplemented by some 10 million acres of private land and 7 million acres of State and municipal lands. Rough as it is, this table is the best concrete index that can be afforded of the extent to which, as a nation, we have attained a stable basis of timber supply and an effective use of non-agricultural land.

Status of timber	arowing	in the	United	States.
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	Total.	Federal.	State.	Municı- pal	Private.
Total forest area, acres	469, 500, 000	89, 100, 000	8, 700, 000	450 000	371, 250, 000
Per cent of total	100.0	16.0	1.9	0.1	79. 0
Proportion protected from fire, per cent	55, 0	99, 5	97.0	98.0	43.0
aged for timber crops, per cent	20.0	98 0	80.0	50, 0	1.0
Area planted, acres		180,000	86, 100	33,700	1, 150, 200
Rate of planting yearly, acres		7 500	7,100	1,400	19,800
Expenditures for forest produc-	\$16, 388, 000	\$9,785,000	\$5,021,000	\$300,000	\$1,282,000

¹ Not including special forest road and trail appropriations or expenditures for slash disposal. Also excludes \$625,000 spent by State and endowed forest schools on forest education. For details of expenditures see Table 513, Forest Statistics section of Yearbook.

Progress in Education and Research.

It has been essential that research, to develop an art as yet unknown in this country, and educational work, to make it the common knowledge of the people, should take a dominant place in both the earlier and later phases of national forestry activities. For 25 years after its insignificant beginning in 1876, the United States Department of Agriculture devoted its efforts in forestry exclusively to investigation and education dealing with timber culture, its protection from insect and fungous diseases, the industrial use of forest products, and the relation of forests to the economic needs of the country. A vast amount of material was published, much of it preliminary and tentative but nevertheless of far-reaching effect.

The forest products research of the Government has been centered, for the past 12 years, at the Forest Products Laboratory in Wisconsin. It deals with the qualities of timber, its efficient manufacture for an immense variety of products, and the conservation of the raw material by reducing waste and improving methods of utilization. research in timber growing has centered largely at six forest experiment stations, in the South and West. At each of these points the science and practice of timber growing in a large region are being worked out, and a demonstration center of timber culture developed. Control of insect infestations and of fungous diseases are being worked out by the Bureaus of Entomology and Plant Industry, respectively. Forest research on a less or greater scale has also been undertaken by 20 State forest departments and by a majority of the 22 forest schools in the United States. The school forests of Harvard and Yale, in New England, and the experiment station conducted by the University of Minnesota are notable examples of local centers of forest research which exert a wide influence for better timber growing.

Much has been done toward solving the myriad technical puzzles confronted as the efficient growing, protection, and utilization of timber are seriously undertaken. But the forest research agencies of the country are still inadequate to keep pace with the demands made upon them in the evolution from timber mining to timber growing. Three important forest regions, the Lake States, the Alleghanies, and the Northeast, are still without Federal experiment stations; and the sum total of our research activities is meager indeed by any standard of comparison, such as the \$2,250,000,000 which our yearly cut of forest products is worth, or the \$250,000,000 which we pay for lumber transportation alone

Other educational activities in timber culture and timber use have expanded enormously within the past 25 years from their small beginnings in the Department of Agriculture. The field organization of the Forest Service for the administration of National Forests has carried them into 27 States. They have been far more widely extended by the forest organizations of 32 States and State-wide or local forestry associations in 29 States. Meanwhile, 22 forest schools have been established, which have graduated 2,700 professional foresters. They now graduate about 175 trained men yearly. Like any other widespread economic or public movement in the United States, progress in timber growing rests fundamentally upon the understanding of the problem-by the everyday man as well as the landowner or industrial user While research and educational work can not immediately restock our idle lands with growing forests, they nevertheless are building an indispensable foundation for the needed changes in national use of land and timber.

Timber Growing a Public and a Private Task.

Two powerful forces are working to bring about the growing of timber crops on forest lands. One is public necessity, the other private opportunity. The public need for a permanent source of timber is being increasingly recognized; but the appreciation of private opportunities for profitable timber growing has scarcely begun.

Public Necessity.

No State can afford to shift the burden of taxation to other property or regions because of its diminishing wealth in timber or to subsidize vast areas of idle land even for such vital requirements as schools and roads. No region or State can afford, because of idle lands, to see its population dwindle, its social life deteriorate, its industries stagnate, its transportation discontinue. Despite the demand for farms created by our growing population, the area of unutilized cut-over forest lands has increased steadily for half a century, now totals well toward 200 million acres, and, for the most part, seems destined to produce timber or nothing. As in agriculture, the growing of timber crops can be made the foundation for healthy rural development and for thriving, well-populated forest regions. Public interest—local, State, and national—can not tolerate the nonuse of immense areas of soil when their profitable use can be brought about.

Our rapidly growing population, expanding industries, demands for better housing in town and country, and enormously increasing use of pulp and paper will require little less timber in the future than the 224 billion cubic feet we now use annually. Even this will necessitate decreased per capita consumption, the increased use of substitutes, and a reduction in the present waste of wood. We can not get along without timber any more than without wheat or steel, but we can meet our industrial requirements and maintain or improve our standards of living by growing it as a crop. We can grow more than half the amount required by simple, inexpensive measures, the most important of which is forest protection against fire. Under more intensive but still entirely feasible methods of timber culture, applied to all of our 470 million acres of forest land, we can grow at least as much timber as we now use.

Under intensive methods of management, our publicly owned forests will produce about one-fifth of the timber required by the United States. It is not conceivable that either State or Federal budgets could support the expenditures needed to buy enough forest land to bridge an appreciable part of the remaining gap between timber growth and timber use, short of an unendurable lapse of time. Even if public forest holdings are enlarged as rapidly as funds can possibly be supplied, the dependency of the country upon timber production on privately owned lands is unescapable.

Private Opportunity.

The second force tending to bring about timber growing is private opportunity, the possibility of profitable returns

on wood crops and of insuring a permanent source of raw material for established enterprises which otherwise will have to be discontinued. Timber growing is already profitable in New England, and conditions in a number of other regions appear to be little less favorable. The cutting out of one species in one great forest region—the Lake States pine—greatly accelerated the rise of stumpage values in practically all forest regions in the United States. rising cost of transportation from the remaining regions of extensive lumber output is steadily creating higher values for the timber grown in the older forest regions. The value of second-growth stumpage has risen with that of virgin stumpage. In the older portions of the country it equals or exceeds the highest values for the less accessible virgin timber still remaining. Eastern second growth greatly exceeds in value the virgin stumpage in the newer regions of Second-growth values equal or exceed the prethe West. war prices of European timber.

The private owner of forest land must consider not only present but future economic developments which will affect the value of timber crops. He should consider the effect on profitable timber growing of cutting out the great bulk of the remaining virgin southern pine within a relatively few years; the effect of the diminishing accessibility of the Pacific coast stands as cutting progresses; the effect on stumpage prices of a gradually decreasing lumber cut, of a rapidly increasing population, and of normal industrial growth. All of these tendencies will have gone far before any timber crops now started will be ready for the ax.

Denuding and discarding forest land may be a short-sighted commercial policy. It has been demonstrated that small tracts of fully stocked second growth on the best sites can produce as much as 500 board feet per acre per year in the southern-pine region, 950 board feet in the white-pine region, 1,000 board feet of Douglas fir, and 1,400 board feet of redwood. Even discounting these yields liberally, for average conditions, young growing forests are often very profitable investments. Whether the owner wishes to hold the land himself for a second cutting or not, leaving it in a condition for good growth often marks the difference between an asset and a liability.

Aside from the financial returns from individual tracts, there are broader questions of private opportunity which in the last analysis are closely related to the public interest. The pulp and paper industry paid \$19.03 per cord on the average in 1920 for its pulp wood delivered at the mill. Many individual mills paid higher prices. Even if homegrown pulpwood cost as much, it should still be worth while to ask whether a permanent and assured supply under the control of the paper plant is not preferable to the exigencies of future purchase, depending perhaps upon the policy of of the Canadian provinces anxious to develop their own industries. Which plan, timber mining or timber cropping, offers to the pulp and paper mill the best business course, considering future supplies and costs and the security of its enormous investment?

The pulp and paper industry is only one of many that faces this question: The mine owner for his supplies of props; the farmer for his farm timber and fuel; the naval stores operator for his gum; lumber and box manufacturers for a sustained inflow of logs; even such industries as agricultural implements and automobiles which use relatively small amounts but special kinds of wood. If the problem of insuring ample supplies of needed material at reasonable prices is too large for individual concerns, is it too large for groups or entire industries?

Two census groups of industries—lumber with its remanufactures and paper—are almost wholly dependent upon the forest. Practically all others are dependent in part. These two groups alone, however, reported in the 1919 census a capital investment exceeding \$5,000,000,000. They include more than 75,000 establishments, located in every State. They employ nearly 1,350,000 wage earners, and they paid in wages in excess of \$1,400,000,000. The individual concerns which make up these two groups and the two groups in the aggregate face the hazard of scrapping their plants, reinvesting their capital, and turning their wage earners adrift, except as a permanent source of raw material can be assured through successive timber crops. Timber crop production is primarily a business opportunity, or

necessity, for only thereby can permanent plant operation and permanency of investments be guaranteed.

Private Obligations.

Extending beyond the opportunities for profit or other business advantages are obligations growing out of the public interest and necessity which are inherent in forest land. These obligations conform with the trend in public opinion, laws, and court decisions toward restrictions on the handling of private property where the public interest may be seriously and adversely affected. They result from the growing complexity of our civilization which makes the welfare of the body politic dependent upon its component parts and impels restrictions upon the freedom of individual action which were unnecessary in a less complex civilization. Forest land is one of our basic natural resources. National welfare depends upon its productivity. From 30 to 100 years are required to mature its crops-Shortages in forest-grown material can not be made good in a season or two, under the reaction of supply and demand, like shortages in wheat or cotton. The people of the United States can secure the timber they need from no other source except this land. If they wait until the injury to social and industrial well-being from lack of wood crops is overwhelming, the loss in time before any remedy could be made effective would create little short of a national disaster. European jurisprudence has recognized the vital relation of forest land to public interest by imposing upon it a degree of public control not shared by most forms of private property.

The public has the right, provided it is reasonably and equitably exercised, to see to it that forest land is kept productive. It can not compel private citizens to own forest land, but it can require that those who choose to own it shall use it for growing timber. The public can not compel the logger to retain his cut-over lands and become a timber grower, but it can require him to leave the land, when he removes its chief element of value, in a productive rather than in a barren condition. In asserting this right, the public must be prepared to pay the price of reforestation as

a part of the cost of manufacturing forest products; and it must be prepared also to do its part in reducing the hazards inherent in timber growing. A considerable timber growth will be obtained on our forest lands, from the unaided efforts of nature, in any event. Self-interest and economic forces will gradually increase its volume and better its quality. But the timber and land problems of the United States can not be adequately met unless a reasonable obligation, or stewardship, is recognized as inherent in the ownership and treatment of forest land.

Public Obligations.

The obligations imposed upon the public by our timber and land problems must be accepted as equally binding. While profitable returns from timber growing can not be guaranteed, the public should meet the landowner half way and, so far as possible, remove the uncertainties which have retarded the timber-crop stage of our forest history. Many of the measures involved will reduce and stabilize the cost of producing timber.

The fire hazard to which growing forests particularly are subject is largely a community hazard, created by the social and industrial conditions surrounding forest lands. An obligation rests upon the public not only to reduce this hazard by legislation and police functions directed at the origin of forest fires, but also to assist the landowners in the cost of fire patrol and suppression. The public has a very specific obligation to adapt the taxation of forest-growing land and what it produces to the reasonable requirements of an undertaking which requires 30 years or more to mature and harvest a crop.

Credit for timber-growing enterprises, at reasonable rates and for long periods, comparable with farm loans, may reasonably be provided by public agencies. Timber insurance, now largely unobtainable, may be made possible with proper stimulus under public policy. Finally, the research necessary to ascertain the best methods of growing, protecting, and utilizing timber must be conducted and its results conveyed promptly and effectively to the producer and manufacturer.

Widespread education of every class of forest owner on his economic opportunities for profitable timber growing and the methods best adapted to his situation and requirements will go far in bringing about timber cropping through the stimulus of self interest.

Furthermore, the public should put its own house in order. All of the forest lands under Federal ownership or control should be systematically protected from fire and utilized for the maximum production of timber, as National Forests or under some comparable form of administration. This applies with special urgency to the 5½ million acres in the unreserved public domain in the continental United States. The enormous acreage of public-land forests in the interior of Alaska should at least be protected from fire pending further settlement and the ultimate determination of their most productive use. All of the forest lands owned or acquired by the States, through tax reversions or otherwise, should be incorporated in State forests, under permanent technical management for timber growth. The denuded areas in various forms of public ownership should be restored to productivity by planting. Public forest policies should aggressively attack the acute problem created by the present enormous area of unproductive land, through the extension of public ownership and the distribution at cost of planting material for private use.

These are obligations of the National and State Governments in recognition of the common necessity. If these things are done, the public can with equity and reasonableness insist that the private owner of forest land do his part.

Three Outstanding Measures Necessary.

Three outstanding measures are necessary to bring about the growing of timber crops on forest lands. The first is to stop unrestrained forest exploitation, the denudation which is a direct result of timber mining.

Timber mining has already left 81 million acres of forest land largely barren, has made 250 million acres more only partially productive, and is adding to these areas from 5 to 10 million acres each year. With little systematic provision for the renewal of our privately owned forests, with a cut four times the present growth of wood, the remaining timber supplies have become so localized as greatly to decrease their general utility. Lumber prices have risen steadily with the exhaustion of local timber and mounting transportation costs, until now they are reflected in a falling per capita consumption. Forest industries, communities, and population have been made transitory. All of these evils have ramified until they reach and affect adversely our entire population.

Forest denudation can be stopped by relatively simple and inexpensive measures. The first is greater efficiency of protection against fire on the half of our forest area now receiving some protection and the extension of a protective organization over the remainder. This alone will prevent the denudation in many of our forest regions, although unrestrained cutting is likely to result in relatively inferior second growth. In some regions, like the southern pine belt, it is necessary to leave a small number of seed trees to insure a future forest. These simple measures will at least make forest lands partially productive and ultimately more than double the growth of timber.

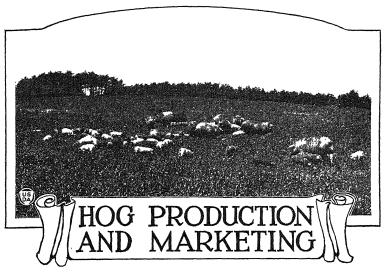
The second step required is to reduce waste in the use of timber. Out of a cut of 22½ billion cubic feet, we waste each year more than 9 billion feet. By the elimination of obvious waste in the woods, in the manufacture of lumber, and in its remanufacture and use, by the general application of technical knowledge already available, and by thoroughgoing research in the properties, protection, and utilization of wood, it should be possible to save at least 6½ billion board feet of lumber each year and additional amounts of other material. The possible saving in lumber alone is equal to the present yearly growth on 170 million acres. This saving is essential to extend the life of our present timber supply and thus to help bridge the gap between the existing virgin forests and new timber crops. Such a saving should mean greater profits to operators, and by increasing the proportion of the crop which can be utilized it should help to make timber growing more profitable.

The third important objective is to increase timber production to the full capacity of the land. Only by this course can we hope to grow the equivalent of our present consumption of 22½ billion cubic feet. Full production will require

the planting of areas now denuded which will not reforest themselves though fires are kept out. It involves careful methods of cutting areas now bearing timber and their protection from insects and diseases.

The ultimate goal of timber growing is a nation-wide extension, region by region, of what has already been attained on private lands in limited parts of the Northeast and in the administration of the National Forests, namely, a sustained yield of forest products, an adjustment of forest-using industries to the growing capacity of the lands which supply them, a balance between timber production and timber use. Before the war Germany was producing 50 cubic feet to the acre of forest land; France 36 feet per acre. We must grow at least 48 cubic feet per acre to meet our present requirements. This rate of growth can be attained if the art of timber culture is thoroughly developed by research in each important forest region and applied by demonstration on public forests and an aggressive campaign of education to reach the private owners of forest land.

By recognizing the importance and urgency of two great national problems, land use and timber supply, by taking full advantage of the powerful forces of public necessity and private opportunity which are working toward the solution of both problems, we can grow on our forest lands timber crops sufficient to meet our wood requirements if public agencies and private owners each do their share. The alternative is idle forest lands and timber bankruptcy.



By E. Z. Russell, S. S. Buckley, Bureau of Animal Industry; O. E. Baker, C. E. Gibbons, R. H. Wilcox, H. W. Hawthorne, S. W. Mendum, O. C. Stine, G. K. Holmes, A. V. Swarthout, Bureau of Agricultural Economics; W. B. Bell, Bureau of Biological Survey; G. S. Jamieson, Bureau of Chemistry; C. W. Warburton, Bureau of Plant Industry; C. F. Langworthy, States Relations Service.

Importance of Hogs.

H OGS are one of the most important sources of meat for human consumption. They are important in American agriculture because (1) they are produced by a large number of farmers; (2) they are consumed by large numbers of urban and rural people; (3) in the form of pork and lard they become two of the most important commodities in foreign and domestic commerce. Hogs rank second in number and third in total value of farm animals in the United States, being exceeded in number by cattle and in value by cattle and horses.

Hogs are produced on three-fourths (75.2 per cent) of the farms in the United States and represent over 10 per cent of the value of the Nation's agricultural production. Hogs in the United States are closely connected with the corn crop. Nearly two-thirds of the commercial production of pork is in that portion of the United States known as the Corn Belt.

The hog is an efficient user of foods fit and unfit for man. It takes about 6 pounds of grain and 6 pounds of hay to

produce a pound of lamb (live weight), 10 pounds of hav and 10 pounds of corn to make a pound of beef, and 5.6 pounds of corn for a pound of pork. The hog has the additional advantage that it dresses off about 25 per cent, while steers and sheep dress off from 35 to 50 per cent. Most of the carcass may be readily prepared as cured meat, in which form it will keep in any climate.

Hogs are frequently used to "hog down" crops, which saves the labor of harvesting. Hogs also help to maintain the fertility of the soil, and where they constitute a part of the live stock, farm practices usually are superior because of the necessity for seasonal rotations of leguminous or rather nitrogenous pasture crops.

Hogs on many farms are raised as a by-product. few exceptions there is feed enough wasted on every farm in the United States to provide the pork and pork products consumed on that farm. The efficiency of hogs in utilizing farm by-products is greater than that of other farm animals. Hogs and poultry will select and utilize the wholesome parts of unsound and unmarketable grains, refuse from truck crops and by-products from the dairy with greater safety than will other classes of live stock. The prolificacy of hogs, their early maturity, the inexpensive equipment, and small capital investment needed likewise help to put hog production within reach of almost every farmer.

The amount of corn marketed in the form of hogs in this country varies annually from 30 to 40 per cent of the The Secretary of Agriculture has remarked: "Our hog crop serves as a slow absorber for the variation in production of our corn crop year by year, thus ironing out the irregularities in corn prices."

Pork and lard are two of the large items in the food supply of the American people. The average annual consumption per capita for the last 5 years is 67.3 pounds of pork and 12.5 pounds of lard, as compared with 60.9 pounds of beef. In several recent years the consumption of pork, without lard, has exceeded that of all other meats combined. The per capita consumption of hog products by farm people is probably even greater than among city people. Many farmers raise hogs for their own consumption who do not produce hogs to sell.

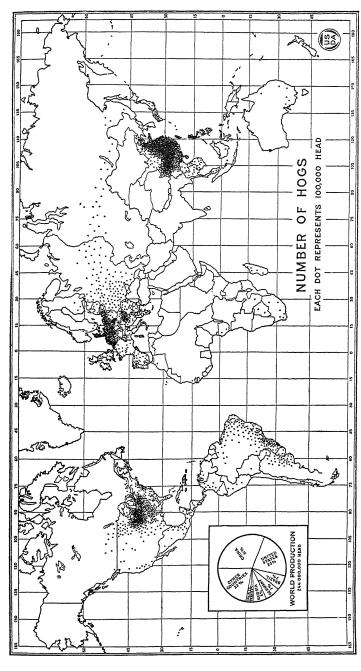


Fig. 1.-The centers of densest hog production are the Corn Belts of the United States and Hungary, the potato and darrying belt of in China, and the figures used are only estimates. In the corn-growing regions of Argentina and southern Brazil the number of hogs is increasing. Hogs are not numerous in tropical countries, because such countries, as a rule, are not deusely populated and have available the vegetable oils to supply the needed fats. Moreover, in the tropical and subtropical climates hogs suffer more from parasites and diseases than in temperate climates. Religion practically excludes hogs from India, Turkey, and certain other parts northern Europe, and China, where hogs are fed largely on waste products and bailey Little is known about hog production of Asia; also from parts of Africa.

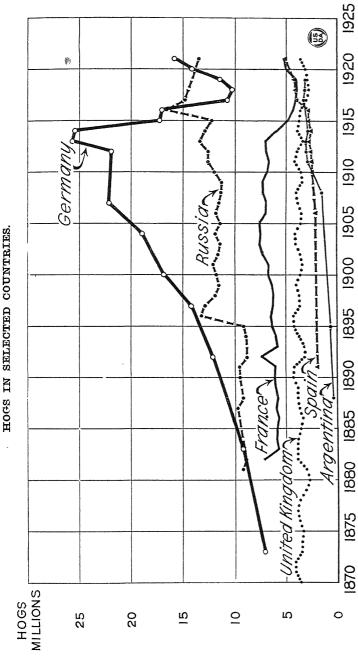
Pork is a product of relatively high value per quantity unit. Exports of pork represent about 4 per cent of the Nation's physical volume of agricultural exports and 10 to 12 per cent of the value of agricultural exports. If cotton, which is not a food product, is excluded, pork exports represent about 20 per cent of our agricultural exports. Before the war, the United States exported pork or live hogs equivalent to about 6 million animals annually, and in 1921 about 10 million. The quantity of corn exported in the form of pork is much greater than that exported in the form of corn or corn meal.

Uses of Pork and Lard.

Pork is used to a greater extent the world over than any other meat. But nowhere is it more important, probably, than among American farmers. All classes of farm animals raised for food are slaughtered to a greater or less extent on the farm, but with none is this custom so common as with the hog. According to a survey of 950 farms made in 1913 and 1914, pork furnished 54 per cent, beef 24.5 per cent, and poultry 21.5 per cent of the meat used on the farms studied. To have fresh meat during the winter, to cure meat for the summer season, to be able to render fat for almost all cooking purposes, to have savory meats in the form of ham, bacon, sausage, headcheese, and scrapple, is a matter of great importance to the farm housekeeper.

However, we live on a mixed diet, not on single foods, and producers as well as users of any given food product should not think of it alone, but always in connection with other food materials and with all the needs of the human body. If this is done it is far more likely to be used intelligently and to be combined with other foods in such a way as to make it attractive and therefore permanently popular. In general, the flavor of pork combines well with vegetables, legumes, and cereals, and fat pork is one of the best known "seasoners" and "enrichers" of such dishes. Many persons who think that they can not eat pork might find it quite possible to do so if they would take pains to combine it with foods that contain little fat.

The fat of all the domestic animals slaughtered for food is used to some extent in the household, but fat of no other



for which statistics are available. The war caused a great reduction in the number of hogs in many of the Buropean countries. Spain, however, increased its number of hogs. Argentina has only recently become an important producer. The estimates shown for Russia Fig. 2.—In the 40 years previous to the World War the number of hogs increased more in Germany than in any other important country since 1914 are from the Central Statistical Bureau of Russia.

domestic animal has such varied and satisfactory uses in the home as lard. Like other fats which are liquid at or near body temperature, lard also is well digested. It must be remembered, however, that lard does not supply to any satisfactory degree the vitamin known as "A" which is believed to be essential for growth—a fact to be kept in mind in connection with food for children—and that so far as fat is concerned, the wise thing to do is to use regularly some fats, such as those in milk or eggs, known to contain this vitamin, and then if economy is at stake, to select the remainder as economically as possible. In many cases this might properly mean an increased use of lard.

Since vitamin A is present not only in milk fat and egg yolk but in all green-leaf vegetables, it is wise to include a liberal amount of the latter in the diet. Fortunately, spinach, turnip tops, cabbage, and many other green-leaf vegetables are quite acceptable when properly cooked with pork. It is better to cook the greens separately, seasoning them with a little of the fat broth from the meat just before serving, since both the flavor and the vitamin value are conserved by the shorter time of cooking.

Development of the Hog Industry.

Change is the rule. Production increases and decreases, centers of production shift, methods of raising hogs change, prices rise and fall, markets move, demand increases and decreases, all in comformity with economic conditions. The brief sketch that follows aims to trace changes and relations so as to show how economic forces operate on the production of, demand for, and prices of hogs.

Hogs were brought to this country by the first settlers to supply their customary meat, and soon became also an article of trade and a source of income. The Connecticut Valley early became an important center for producing pork for market. Several of the northern colonies produced a surplus of pork, which was exchanged with the West Indies for sugar and rum.

The export statistics of 1790 are the first available figures that afford a measure of this surplus production. In that year there were exported from the United States approxi-

mately 6,000,000 pounds of pork and pork products, the export amounting to 1.5 pounds per capita of the population. The domestic consumption was many times greater. Most people were farmers and were keeping a few hogs. In New England dairying (mostly butter and cheese making), cattle feeding, and hog raising were carried on together. The Southern States produced corn, cotton, sugar, and rice and let the hogs forage on roots, acorns, and nuts after which the animals were finished for the butcher with a little corn.

Following the War of 1812 agriculture developed very rapidly in Ohio, Kentucky, and Tennessee, and the most

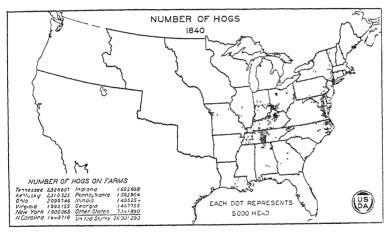


Fig. 3.—The important centers of hog production in 1840 were in the earliest settled corn-growing regions west of the Allegheny Mountains. Hogs were driven from these regions to the Atlantic coast and to the Cotton Belt to market

important products were corn, hogs, and cattle. The corn was marketed principally in the form of hogs and cattle driven to market. Hogs were driven east to Philadelphia and Baltimore and south to the cotton-producing regions. Slaughtering for shipment down the Ohio and Mississippi Rivers to New Orleans, where the meat was consumed or reshipped to Atlantic coast points and abroad, began about 1820, and Cincinnati soon became a great pork-packing center.

Figure 3 shows the distribution of hogs at the time of the first census, 1840. The heavy concentration in Tennessee \$5143°—XEK 1922——13

and Kentucky was owing partly to the fact that these States had developed earlier than the Western States and partly to the more favorable location with respect to markets. The farmers of the South were specializing in cotton production

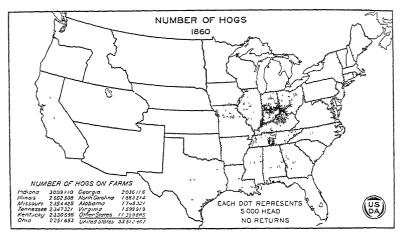


Fig. 4.—In the Mississippi Valley production continued to increase between 1850 and 1860 and expanded westward into Iowa, Nebraska, and Kansas. The areas of densest production were not far from Cincinnati, which was still the great packing center. Hogs had now become numerous in California

and depending upon regions not so well suited for this industry to produce much of their meat. By 1840 hog-packing plants had been established at many points in the Western States. The beginning of the great packing industry at Chicago had been made in 1832. Large quantities of pork and pork products were shipped down the western rivers to New Orleans for reshipment to the Coast States or for export.

Between 1840 and 1860 the number of hogs increased especially in the West. The New England States and New York, on the other hand, lost about half the number they had in 1840. The West (now known as the Middle West), which was being settled very rapidly, was fertile and well suited to corn production. The most economical method of marketing the corn was to feed it to hogs. Corn and hogs were being produced so cheaply in the Western States that pork could be shipped to the Northeastern States and sold

at such low prices that many of the eastern farmers were finding it more profitable to produce something else.

Between 1850 and 1860 the same tendencies noted in the previous decade continued. Railroads built from the East into the West enabled the West to ship live hogs east for the fresh-meat market, and during several years immediately following the building of the railroads many live hogs were shipped east. Another result of the extension of railroads was to develop the tendency to centralize the packing industry. An important development, summer packing or "ice packing," began toward the end of this decade, about 1857. The ultimate result of this was to strengthen the position of the western producer by enabling him to furnish the eastern markets with fresh meats without shipping the whole hog alive.

The Civil War greatly disturbed the markets for hogs. The southern market for northern hogs was reduced and at times almost entirely cut off. Larger quantities than ever were exported to Europe during 1861–64. Notwithstanding that prices of most commodities were generally high in this period the price of hogs was very low until 1864. There are no statistics of the numbers of hogs on farms during this period. The estimates of the Department of Agriculture

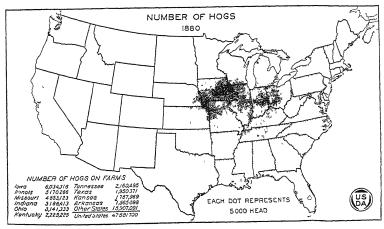


Fig. 5.—The center of greatest production had shifted by 1880 to western Illinois, eastern and southern Iowa, and northwestern Missouri. The present Corn Bolt area was nearly all occupied by hogs. Production in the East continued to decline.

190 Yearbook of the Department of Agriculture, 1922.

began in 1867. Assuming that the higher prices in 1864 and 1865 stimulated production there must have been some recovery by 1867 when there were probably 6,000,000 hogs fewer than in 1860. At the end of the decade 1870, adding in an

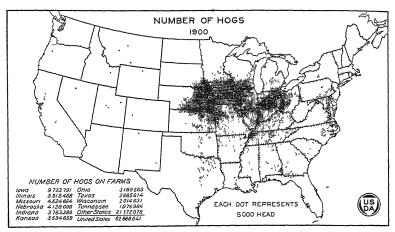


Fig. 6.—The most notable increases between 1880 and 1900 were made in Nebraska and Kansas and along the northern border of the Corn Belt in Wisconsin, northern Iowa, southern Minnesota, and southeastern South Dakota. Oklahoma and Indian Territory had been opened to settlement and many hogs were being produced in these new States

estimate of the suckling pigs which were omitted by the census, the number was still less than in 1860.

Following the Civil War there was a very rapid expansion of agriculture in the upper Mississippi Valley and a great increase in corn and hog production. The price of hogs fell to very low levels in 1872 and 1873, from which there was a gradual rise to 1875, and then a decline to 1879, when it reached the lowest point since the Civil War. Many farmers in the East abandoned hog production. Low prices encouraged exports, and there was an enormous increase in the exports of pork and pork products between 1870 and 1880.

Table 1.—Average annual exports of pork and pork products from United States, during two 5-year periods, 1867-71 and 1877-81.

Period.	Pork, pickled and salted.	Ham and bacon.	Lard.
1867–71 1877–81	Pounds. 28,879,000 85,968,000	Pounds. 45,790,000 658,367,000	Pounds. 53,579,000 331,457,000

These products flooded European markets, and producers in the importing countries demanded some protection. On the pretext that the pork from the United States was dangerous to the health of the people, chiefly because of alleged infestation with trichinæ, Germany, France, and several other European nations in 1881 prohibited imports of pork from the United States. The markets of some of these countries were closed for several years, thus curtailing the foreign market for our pork.

Low prices and a curtailed foreign market discouraged rapid expansion in hog production. Moreover, further expansion of the area of corn production after 1880 was made increasingly difficult westward by the semiarid condition of the Great Plains and northward by the shortness of the growing season. Between 1880 and 1890 there was an increase in the number of hogs, but that increase occurred in the first two years of the decade, the number in 1890 being less than in 1882. The most significant change in distribution was the increase in the number in the western part of the Corn Belt along the border of the Great Plains and in Iowa, in conformity with the tendency to market the most distant corn through hogs.

Since 1890 many of the tendencies noted above have continued. In the eastern Corn Belt States increase in the

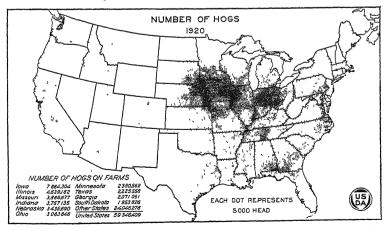


Fig. 7—Between 1910 and 1920 the number of hogs continued to increase in the Dakotas, but decreased notably in Kansas and Oklahoma, where wattime prices for wheat had caused it to supplant much of corn. In the western States, especially California, the number had increased; also in Alabama, Georgia, and the Carolinas.

market demand for corn has resulted in reduction in the number of hogs nearest to corn markets. On the other hand, the number of hogs has increased with the development of dairying for butter north of the Corn Belt in Wisconsin and Minnesota and on the Great Plains with the settlement and development of that region.

Census Statistics of the Number of Hogs.

Changes in the time of year and in the scope of the census make it difficult to compare accurately the results of the several censuses. In recent years the Department of Agriculture has collected data as to the monthly changes in number of hogs on farms. Since the last census was taken as of January 1, 1920, it seems desirable to adjust the results of the other censuses to January 1 base. The censuses 1840–1870 took no account of hogs not on farms, and in 1880 and 1890 hogs in "inclosures" or in villages were not counted. In 1870 suckling pigs were omitted, whereas in other years they were partly or entirely included in the census.

The following tabulation gives census figures and, in addition, comparable estimates as of January 1 for each census year. The latter, excepting for 1840, were computed by Sewall Wright of the Bureau of Animal Industry:

Table 2.—Hogs on farms and clsewhere as cnumerated by the census and estimated by the Department of Agriculture as of January 1, each census year.

Year.	Reported on farms by the census.	Reported on ranges and elsewhere.	Total reported by the census.	Estimated total hogs and pigs as of January 1.
	Number.	Number.	Number	Number.
1840-June	26,301,293		26,301,293	27,000,000
1850-June 1	30, 354, 213		30, 354, 213	31,200,000
1860-June 1	33, 512, 867		33, 512, 867	34, 500, 000
1870-June 1	1 25, 134, 569		¹ 25, 134, 569	32,300,000
1880-June 1	47,681,700	3 2,090,970	³ 49,772,670	51,200,000
1890-June 1	57,409,583	4 17, 276	4 57, 426, 859	59,100,000
1900-June 1	2 62, 868, 041	5 1,818,114	61,686,155	53,900,000
1910-Apr. 15	58, 185, 676	5 1, 287, 960	59,473,636	57, 200, 000
1920-Jan. 1	59,346,409	5 2,638,389	61,984,798	62,000,000
	I	1		1 .

¹ Suckling pigs omitted by instructions.

² Exclusive of 8,067 in Alaska and Hawaii which are not included in other census totals.

⁸ On ranges, including 773, 931 in Indian Territory

⁴ On ranges, including 1,572 on Indian reservations.

⁵ Not on farms or ranges, mostly in villages and cities.

Hog Production.

Breeds of Hogs.

Wild hogs from which all modern breeds originated were found in Asia, Europe, and Africa. Our modern hogs have been derived from the intercrossing of Chinese hogs, Neapolitan hogs, the early hogs of Great Britain, and red hogs from Spain and West Africa, with subsequent selection for certain characteristics. It is probable that domestication and systematic breeding of the wild hog of Asia was begun by the Chinese much earlier than by any of the peoples of Europe.

Chinese hogs are rather small, with long bodies and low backs, short necks and legs. They are either black or white, or mixed, fatten readily and are not prolific. Neapolitan hogs from southern Europe are small, with long bodies, heavy, flat backs, and short, fine legs. Their coats are soft, not bristly, and of a bluish, plum, or slate color. These hogs fatten readily, mature quickly but are uncertain breeders. The original hogs of Great Britain were mostly white in color, had large, long bodies, long snouts, pendent ears, long legs, and bristly hair. They matured slowly but grew to an enormous size.

The Yorkshire was one of the first modern breeds to arise in England out of these early types. The Berkshire, Tamworth, Suffolk, Essex, and Hampshire hogs represent later developments in the formation of breeds. In Great Britain different names are applied to hogs which vary only slightly in characteristics.

The breeds of hogs which are distinctively of American origin are the Chester White, the Poland China, and the Duroc-Jersey. The Chester White hogs, which are the oldest American breed, originated in southeastern Pennsylvania from foundation stock of large, white, long-bodied hogs derived probably from England. The Poland China was the second American breed to be developed. This breed originated in the Miami Valley of Ohio and resulted from the combination of a number of breeds which included the Berkshire, the Irish Grazier, the Byfield, the Big China, and

probably other hogs which had been brought into that section. Through selection and crossing hogs were produced which bred true, and outcrossing has not been practiced to any extent since about 1845.

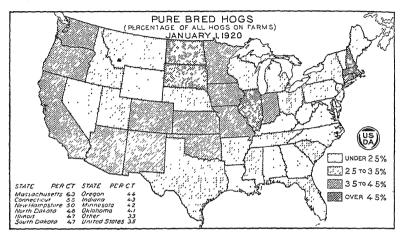


Fig. 8.—The percentage of hogs that were registered pure breds was highest in 1920 in New England, according to the census. In the Corn Belt, where nearly half the hogs of this country are produced, only about 4 per cent were registered pure bred. Undoubtedly many more were unregistered. The percentage of registered pure breds in the South ranged from about 2 to 3 per cent of all hogs. The average for the United States was 3.5 per cent.

The Duroc-Jersey was the last of the purely American breeds to be produced and has become most widespread. It resulted from the amalgamation of two very similar strains of red hogs known as Durocs and Jersey Reds. Hogs from West Africa, crossed with Berkshires and Tamworths, probably played an important part in establishing the characteristics of color and conformation. The Duroc-Jersey is a hog of good size, early maturing, an active grazer, extremely prolific, and well adapted to the feeds which are plentiful in the Middle West section of the United States.

Pure-bred Hogs.

According to the last census 3.5 per cent of the hogs on farms in the United States on January 1, 1920, were registered pure breds. (Fig. 8.) The total number of hogs on farms on that date was 59,346,409, and the number of regis-

tered pure breds was 2,049,900. These figures do not show the total number of pure-bred hogs on American farms. Many of our farmers use pure-bred sires and dams to produce market hogs which are never recorded, consequently they do not show in the numbers reported by the census. During the past decade there has been a marked increase in the number of unregistered pure-bred sires and dams which are used only for the production of market animals.

The high prices paid for market hogs during the war period greatly stimulated the pure-bred hog business. When prices advanced breeders enlarged their operations, and many persons, apparently assuming that high prices would continue indefinitely, went into the hog-breeding business as a new venture. Ridiculously high prices were paid for particularly fine animals, and prices for animals of average quality advanced far beyond the safety point. When the deflation period subsequent to the war came, hog prices dropped, accompanied by decreased demand for breeding stock. Many breeders found themselves stocked with high-priced animals and facing a depressed market. It is not strange that some were forced out of business.

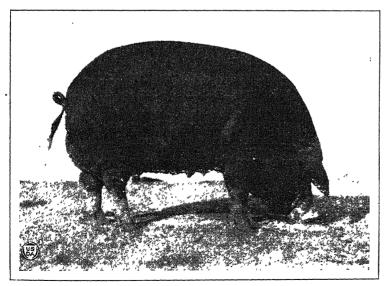


Fig 9.—Big-type hogs are long, have large, sturdy legs, high arched backs, great length of body, and deep, broad sides. They are active in their movements, and are quite thrifty. Big-type hogs produce large, strong, vigorous litters.

196 Yearbook of the Department of Agriculture, 1922.

The number of pure-bred hogs exceeds the number of pure breds of any other kind of live stock, cattle ranking second with 1,981,514. In percentage of pure bred to total number of animals, hogs rank first, cattle second, sheep third, and horses fourth.

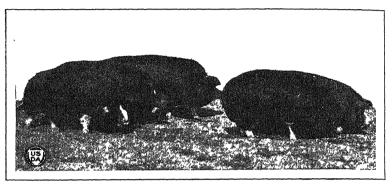


Fig. 10.—The type of hogs which was commonly found in pure bred herds about 30 years ago is frequently referred to as "the hot blood." These were short-bodied, round-barreled hogs with short legs. They matured early and fattened quickly. They failed as breeders and became very unpopular. The big-type hog of the present time has largely replaced them.

Types of Hogs.

During the period from 1880 to somewhat later than 1890 a large proportion of pure-bred hogs were of a type later referred to as "hot bloods." (Fig. 10.) They were shortlegged, compact, early maturing hogs which never attained large size, and were common in the Poland-China breed. Size, vigor, "rustling" qualities, and prolificacy were bred out of these hogs, and the type became so unprofitable that the Poland-China breed rapidly lost favor. The hog men of the country became interested in the Duroc-Jersey breed about They were then coarse, rugged, heavy-boned this time. animals which produced litters of good size. The sows were prolific and good sucklers, and although the pigs were rather slow in maturing, yet they attained weights equal to or better than the "hot bloods" at the same age. Owing to the large litters and better "rustling" qualities, the Duroc-Jersev breed gained favor rapidly among American hog men.

Recent Changes in Type.

The latter half of the nineteenth century saw the development of the western and northwestern section of the country with its mines, lumber camps, and railroad construction works. From this and other developing sections came the demand for fat and salt meats; but with the settlement of the country and improved facilities for transportation and refrigeration a greater variety of foods became available, causing the demand for heavy, fat meats to decrease. Likewise ships whose crews formerly used large quantities of salt meats became equipped with cold-storage facilities, enabling them to carry fresh meats and a greater variety of foods. Furthermore, the American laborer, business man. and farmer had advanced financially and demanded bacon and hams of higher quality. The fat sides produced from blocky-type hogs sold at heavy discounts. This situation compelled the packers to discriminate against heavy, fat hogs in favor of lighter-weight carcasses.

The most profitable hogs at present are those that attain market weights of 175 to 225 pounds at 6 to 9 months of age. These weights can not be obtained at that age in animals of the blocky type without an excess of fat. The so-called "big type" or modern hogs are popular because they produce and suckle large litters, are good rustlers, and utilize pastures to

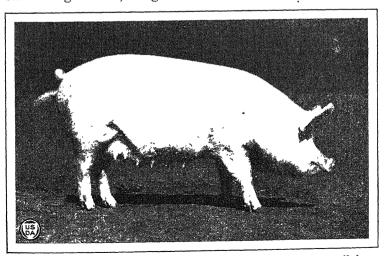


Fig. 11.—Bacon-type hogs have long, deep sides with relatively small ham; and shoulders. The bodies of bacon-type hogs generally are smoother than those of the lard type.

the maximum. In the efforts to secure a big type, however, there is a point beyond which it is unwise for the hog breeders to go. If an extremely big type is attained, hogs weighing 175 to 225 pounds will not be sufficiently mature to produce firm carcasses, and will not command the best market prices.

Production of Feeder Pigs.

Within the last decade there has developed in the Corn Belt a large demand for pigs weighing from 75 to 100 pounds. This is because larger numbers of these "feeder pigs" (Fig. 13) can be profitably fed out in the Corn Belt

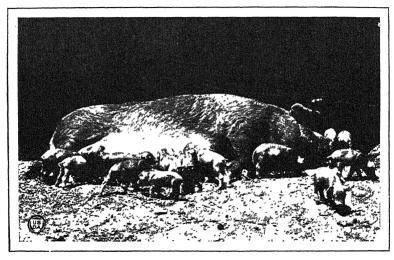


Fig. 12.—The profitable brood sow produces large litters of vigorous pigs, suckles them abundantly, and is sufficiently active and careful in her movements that few are killed or injured. Highly nervous sows rarely become good brood sows.

than are raised there. In the Western and Southwestern States there are localities in which the production of feed for fattening hogs is possible during some years while in other years these feed crops are almost total failures. As a result of this uncertainty the swine business in these sections has never developed into a large enterprise. These localities, however, have extensive pastures and grow large amounts of forage, so it is possible to produce pigs profitably at 75 to 100 pound weights. During those years when grain crops yield well these pigs may be fed out at a profit, and when the grain crops fail the pigs may be sold as "feeders."

Opportunities for developing the feeder-pig industry in those regions to the west and south of the Corn Belt appear far-reaching.

Hog Production and Farm Systems.

Hogs are raised in the United States for home use on the farm as well as for market. The production of hogs for home consumption is more widespread than that of any other kind of live stock except poultry, hogs being raised and slaughtered on the farm for food in every county of the United States. The production of hogs for market, on the other hand, is more concentrated than that of any other



Fig 13.—Feeder pigs of approximately 100-pound weights are in great demand in some sections of the Corn Belt where not enough of them are produced to consume the corn grown in these sections. Frequently thin hogs are shipped back to farms from the markets for turther reeding. The production of feeder pigs to supply this need is developing into quite an industry

kind of live stock, nearly half the hogs of the country being found in the Corn Belt. In the Corn Belt hogs have attained a dominating position in the farm system. Outside the Corn Belt generally crops other than corn and other kinds of live stock are more important commercially and hogs usually play a secondary rôle, assuming an importance in the farm business corresponding to the purposes to be served. These purposes are essentially three, (1) for farm use, which is general all over the country; (2) for market on

the hoof as a principal farm enterprise, which system is found on a few farms outside the Corn Belt; (3) for market as a by-product of farms with some other chief commercial product, as in parts of the Cotton Belt, and in the dairy sections of the Northeastern States and of the Midwestern States to the north of the Corn Belt.

Production for Farm Use.

The wide distribution of hogs slaughtered on the farm for use by the family is shown in Figure 14. The greatest number are slaughtered in the Cotton Belt and in the southern portion of the Corn Belt. Only about 40 per cent of the farms in the United States raising hogs sold hogs for the market according to the census of 1920, the latest year for

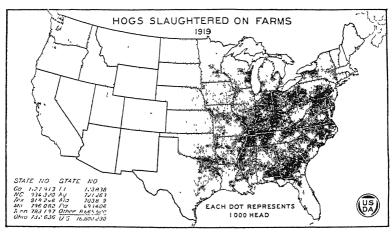


Fig. 14.—Seventy per cent of the farmers slaughtered hogs on the farm in 1919, but the number of hogs slaughtered was only about one-third as many as the number slaughtered by the large packers and local butchers. About five-sixths of the pork and lard resulting from the farm slaughter was consumed on the farm, and one-sixth was sold. More hogs are slaughtered on farms in the Cotton Belt than in the Corn Belt, where the country population is less dense and most of the hogs raised are shipped to the large markets. See Figure 7 and Figure 30. (Number of hogs, 1920, and Receipts at Principal Markets.)

which figures are available. Nearly twice as many farmers, or about 80 per cent, slaughtered hogs on the farm for their own use. Of this 80 per cent, three-fourths evidently sold no hogs. This practice of slaughtering hogs on the farm, moreover, was increasing up to 1919. Over one-fourth more farmers slaughtered their hogs in 1919 than in 1909, but the increase in the number of hogs slaughtered on farms was only about 10 per cent. Figures secured by the

Department of Agriculture indicate that farm slaughter has been decreasing during the last two years, owing to the necessity for farmers to convert every possible product into money.

Nearly every farm can find feed enough for a pig or two and thus supply the needs of the farm family for salt pork, bacon, and lard, and perhaps also a large part of its total meat supply can be so produced at home. Hogs kept for family use do not represent any great money outlay: they usually receive very little feed that could be converted into cash, and they do save the farm family considerable sums in the food supply.

The importance of pork and pork products in the food supply has been shown by special inquiries made by the Department of Agriculture into the contribution of the farm to the food supply of the family. In Clinton County, Ind., 100 farm families, each producing annually about 12,000 pounds of hogs on the hoof, set aside for their own use nearly 1,000 pounds, or 711 pounds dressed weight. This was 41 per cent of the contribution of the farm to the family food supply. In Sumter County, Ga., the average use by 550 farm families whose main business was raising cotton, was 832 pounds of pork of its own production out of a total farm production of little more than twice that amount. This was 37 per cent of the value contributed by all farm products. In Tompkins County, N. Y., where market milk is the chief farm product of the farmers interviewed, 250 reported the use of 229 pounds of pork per farm, or 17 per cent of the farm's contribution to the food supply. This was about half of the total pork contribution of the farms, and probably only a part of the pork used annually by these farm families.

The aggregate number of hogs kept to make use of table scraps and the refuse of farm crops and eventually finding their way to the farmer's table is large, but relative to the number produced in the United States it is small and gets its significance from the importance the farmers themselves attach to it. The hogs slaughtered on farms were about one-fourth the number raised in 1919, according to the census.

Production for Market.

About three-fourths of the hogs raised in the United States are produced for market. Over 95 per cent of this

commercial hog crop is produced in the humid eastern half of the country—about 60 per cent in the Corn Belt, 15 per cent in the Cotton Belt and other regions of the South and southeast of the Corn Belt, and 15 per cent in the Dairy Belt and other regions of the North and Northeast. The variations in the systems of farming into which production of hogs for market enter are many, but fall into three general types, (1) that of the Corn Belt, (2) that of the Cotton Belt, and (3) that of the Dairy Belt of the North.

Hogs in the Corn Belt System.

The American type of fat hog was made possible by the abundance and cheapness of corn in the Corn Belt, and year in and year out in spite of almost every vicissitude of the hog market, hogs make corn profitable. It is true that during the height of the war demands it was disappointing to feed two-dollar corn to hogs when hog prices were running below their usual ratio to corn, but in the post-war depression of 1921–22 it was the hog that saved the situation for untold numbers of corn growers.

In Iowa, where the hog population is densest (see Fig. 7), and where corn might be grown on 4 acres out of 5 if occasion should arise, the hog enterprise contributes only about two-fifths of the receipts of the average farm, the rest arising out of sales of crops and other live stock or live-stock products. Occasionally farms are found on which hog breeding and feeding constitute the sole important source of income. On such a farm all the land may be devoted to corn except for the small area needed for pasture and for hay and grain for work stock and a few cows, and much of the feed may also be purchased. Such farms are few in number, however, as the general run of farms require different management.

A great many variations of the general farm system are met in a day's journey through the Corn Belt. This system calls for a 3-year or 4-year rotation of crops. Rotation of crops is an essential feature of a permanent farm policy even under a live-stock system—perhaps because of it. Maintenance of fertility is most cheaply effected by the cultivation of some leguminous hay or other crop in addition to the animal manures. Small grains serve as nurse crops for the young alfalfa or clover, and thus establish their position in

the rotation, where otherwise they might be reduced to a minimum or left out entirely. While the hog may subsist largely on corn, it can make practically no use of the stalks nor of the straw and hav incidental to a rotation of crops. Cattle of either beef or dairy type make the best use of the roughage available in the rotation. Seldom more than half of the crop land is in corn; the balance is in clover or alfalfa. either cut for hay or pastured, and some small grain; cattle are kept to consume the roughage not needed for the horses. and hogs are kept to follow the cattle and to use the corn not fed to the cattle. Practically the adjustment is never very close; because of changing crop yields the feed supply varies; because of changes in market prices changes in the number and kind of live stock fed must be made, necessitating purchases or sales of feed. A farmer's personal preferences also enter into his decision whether to stock heavily and buy feed or run light and sell feed. Live-stock farming requires more capital than grain farming; so tenants tend to keep fewer animals than owners, unless the animals are furnished by their landlords.

Hogs are most numerous per square mile in Iowa, in a small area around Omaha, Nebr., the northwest counties of Illinois, central Indiana, and southwestern Ohio. Nearer Chicago in Illinois and Indiana, corn is even more intensely produced, but a much larger part of the crop goes to market as grain instead of being fed to stock.

RECEIPTS FROM HOGS.

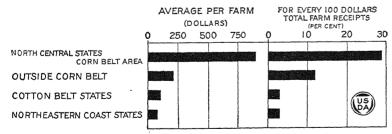


Fig. 15.—Receipts from hogs for 8,888 farm records in the Corn Belt area averaged \$898 per farm, or 29 per cent of the total receipts; for 4,481 farm records in the North Central States outside the Corn Belt, \$217, or 12 per cent of the total; for 2,185 farm records in the Cotton Belt States, \$101 per farm, or 3 per cent of the total; and for 9,525 farm records in the Northeast Coast States, \$80 per farm, or 3 per cent of the total. These data cover the years 1908 to 1920. The number of farm records varied from year to year. These data illustrate the importance of hogs as a source of farm receipts for the different groups of States.

Hogs enter into the calculations of cattle feeders even when not given first consideration, for the hogs work over the manure in the feed lots and make good gains on the corn left by the steers. Sometimes hogs following steers are given additional feed; sometimes they are used only in numbers sufficient to clean up after the steers.

A good idea of the crop and live-stock combinations in the areas of greatest concentration of hogs may be obtained from the figures of production and sales from 100 farms in Clinton County, Ind., shown below. The figures are averages for eight years, and seasonal differences are accordingly largely eliminated. Cattle feeding was concentrated on the larger farms, sheep were fed on a few farms, and sales of corn varied from farm to farm and season to season. Corn, wheat, and oats were generally grown, the corn fed to hogs, and most of the wheat and oats sold. Farms in Iowa would probably show more cattle, somewhat larger farms, and greater total output per farm.

Organization of Farms, Clinton County, Ind.

Crops:	Acre	s. Pro	duction.
Corn	43	1, 93	5 bushels
Wheat	10	18	0 bushels
Oats	25	1, 07	5 bushels
Hay	12	10	6 tons
Clover seed			7 bushels
Pasture	26		
Farm sales:	Quo	entity.	Value.
Corn	486	bushels	\$408
Wheat	166	bushels	221
Oats	811	bushels	375
Hay	4	tons	44
Clover seed	5	bushels	42
Hogs	1,000	pounds	1, 225
Butterfat	329	pounds	112
Cattle	6	head	290
Horses and colts	1	head	41
Sheep and lambs	1	head]	9
Wool	7	pounds }	ð
Poultry	62	head 1	125
Eggs	330	dozen	120
Other sales			89
Produced for family use:			
Pork	711	pounds	158
Other food and fuel			244

¹ The figures for 7 of these years are shown in detail in Department Bulletin ⁹²⁰ Form Profits by Dixon and Hawthorne.

These are the average figures for 100 farms; there were wide variations in the use of the corn grown and in the importance of hogs on different farms. These variations in farms may be illustrated as follows:

Of the 100 farms-

- 12 fed less than one-half the corn they produced.
- 38 fed from one-half to three-fourths of the corn they produced.
- 21 fed over three-fourths of the corn they produced
- 29 fed over three-fourths of the corn they produced and bought considerable corn or other feed.

Of the 100 farms-

- 23 had over one-half their receipts from the sales of hogs.
- 55 had from one-fourth to one-half of their receipts from hogs.
- 22 had less than one-fourth of their receipts from hogs.

It has become a common practice in the Corn Belt to turn the hogs into the corn fields to harvest it themselves. If



Fig. 16.-Hogging down corn is a successful and economical method of fattening hogs.

kept close together by temporary fences and made to clean up the corn as they go, very little grain is wasted by hogging off the corn and much labor is saved.

A device which has proved its worth to increasing numbers of farmers is the self-feeder, which must be replenished with feed at frequent intervals. Hogs being fed for market on pasture have corn, other concentrated feeds, tankage, salt, and water before them at all times, which they may take in such quantities as they like without much more care on the farmer's part than to keep the hoppers filled. Hogs self-fed in this way eat rather more feed than hand-fed hogs, but do not gorge themselves, balance their ration

as accurately as the farmer could do it for them, make as efficient use of the feed and are ready for market somewhat earlier than the hand-fed hogs.

Hogs on Farms in the South.

Commercial development of hog raising in the South has been greatly retarded because of the dominating importance of the cotton crop, just as it was promoted in the Corn Belt by the abundance and cheapness of corn. Such development as has been made is largely the result of the necessity of finding some profitable substitute for part of the cotton formerly raised. This necessity first appeared in connection with soil improvement campaigns, but more recently because of the ravages of the boll weevil.

In parts of the South to-day hogs are still given free range of woods and are obliged to shift largely for themselves. Breeding is often a matter of chance, and the hogs are rounded up for butchering as needed, regardless of age or size. Under such circumstances the size of the animal varies according to age, to the forage it may have been able to pick up, and to the amount of supplementary feed which may have been supplied, but the condition regardless of age is nearly always poor. This is not considered a serious matter, because such hogs make "bacon" and are largely used for farm consumption. Herds of hogs so kept number from a few stock hogs upwards, according to the size of the farm. Such hogs are a slight improvement over the old "razorback," and they cost very little, for they get little feed that costs money or that could be turned into cash. The percentage of the pigs born which reach the scalding vat is small, due to straying, theft, disease, and other contingencies of the wild life. Still such hogs are valuable, not for market but for home use. In the South pork or bacon is the principal meat used and is an important item in the food supply.

As early as the middle of the last century the necessity for soil improvement was recognized in certain of the lessfavored cotton counties of the southeastern part of the Cotton Belt, together with the advisability of producing more of the farm supplies locally. Diversification, especially the use of leguminous crops, afforded a means of building up

the soil rather than letting the land lie idle, and hogs were put on in order to make these crops pay, first for home use, then for market. In other sections the boll weevil has brought about the same necessity for diversification with similar results. The hog is an important factor in diversified farming in the South. The peanut and the velvet bean are of value as soil improvers, and their value for this purpose is not seriously impaired by providing a large amount of protein-rich pasture for growing hogs before being plowed under. Peanuts may be grown for market, and the fields cleaned up by hogs after the bulk of the crop has been taken off, or they may be planted and cultivated solely for hog pasture. With the variety of crops grown on southern farms, hogs may be pastured and kept in good growing condition almost the entire year, requiring only a minimum of mill feed or corn for finishing off. On 218 farms in southwest Georgia, for instance, only 5 pounds of concentrates were fed in addition to pasturage to secure 100 pounds of gain with hogs as contrasted with the usual rates in the Corn Belt of 20 bushels of corn (560 pounds) for 100 pounds of gain. It is along these lines that hogs in the South can and do compete with hogs in the Corn Belt.

Cotton predominates the crop system of the South. For this reason hogs do not contribute a high proportion of the total income of the farmer directly through sales, not even if the value of the pork consumed by the household is added The hog industry, because it is an important factor in the maintenance of soil fertility, in soil improvement, and in diversification, contributes to the success of the farm through all the other enterprises. With the exception of the central part of Tennessee. where little cotton is produced, more hogs are raised in southern Georgia than elsewhere in the Cotton States. (Fig. 15.) In this section of Georgia there are many different crop and live-stock combinations representing a breaking away from the customary complete reliance on cotton. This tendency to reduce cotton acreage and increase corn and other crops and live stock has been particularly noticeable in Sumter County, Ga. Two special studies of farm organization and practice were made in this county on more than 500 farms. The composite figures for these farms are presented as typical of the organization of many farms in southern Georgia. Elsewhere in the South the ratios of cotton acreage to corn and other crops and the importance of hogs in the farm system are somewhat different according to locality, but there are now a number of counties in the South in which diversification of production has developed to about the same extent.

Organization of farms, Sumter County, Ga.

Crops:			
(Average per farm.)	cres.	Production.	
Cathon	63	32 bales lint.	
Cotton	634	15 tons seed.	
Corn	41	568 bushels.	
Small grains	11	225 bushels.	
Hay, pasture, and green-manure			
crops (31 acres following small			
grains in the same season)	44	Largely for farm	use.
Peanuts	3	, 1 ton.	
Cane syrup		39 gallons.	
Sweet potatoes	1	Family use.	
Farm sales:	Ç	Quantity.	Value.
Cotton	32	bales.	\$3,076
Cotton seed	12	tons.	524
Corn	118	bushels.	165
Small grain	30	bushels.	38
Cowpeas	3	bushels.	6
Hay	1	ton	14
Peanuts	1	ton.	103
Cane syrup	31	gallons.	28
Sweet potatoes	11	bushels.	11
Cattle	1	head.	42
Hogs	4	head.	450
Cured pork	287	pounds.	156
Lumber, wood, etc			_ 19
Other sales			_ 304
Produced for tamily use in addition t	o the	e sales:	
Pork			159
Food in addition to pork			_ 271

The sale of pork, it will be noted, is the fourth largest item, and, though it is insignificant compared with cotton, if the value of the pork used on the farm is added to sales, the hog enterprise ranks next to cotton and corn, with a total value exceeding \$300.

Hogs in the Dairy Farm System.

In New England, New York, Wisconsin, northern Illinois, northeastern Iowa, and much of Minnesota, dairy cows are

the dominating factor in the farm operations. Wherever butter or cheese is made in these areas, the hog will also be found as an important contributor to farm profits, except in the newer farms in the cut-over country. The presence or absence of hogs makes little difference in the crop plans of dairy farms. The crop system is based on the needs of the cows. Usually there is concentrated feed enough and of suitable kind to meet the needs of the number of hogs which may be kept on the milk by-product available. The milk byproduct is unexcelled as a feed for growing pigs and even small quantities added to the concentrate and forage ration give highly satisfactory results. Barley gives nearly as good results with hogs as corn, and because it does well where corn may not always mature, the hog-and-dairy system may be effective beyond the limits of profitable corn culture. Few hogs are kept on dairy farms in the city-milk or the condensery territories and, when they do occur, are on a basis similar to those obtaining in the Corn Belt.

Less than 5 per cent of the hogs of the country are maintained in New England, New York, and Pennsylvania combined. Commercial hog production in this region has been obliged to give way to the cheaper corn and cheaper hogs of the Corn Belt, few hogs above those needed for family use being raised. There are some breeding herds of importance, but these are managed in most respects as are those in the Corn Belt. In the dairy sections of the Lake States, because of the much greater variety and abundance of feeds suitable for hogs raised on the farms or available at comparatively low prices, hogs are much more numerous than in the eastern dairy sections, and the aggregate production is large.

As the development of the hog industry has to a large extent been based on transportation services and costs, its present organization and distribution also depend to a large extent on transportation facilities. Any radical change in freight rates and services will probably be reflected in the geography of the industry.

Relation of the Corn Crop to Hog Production.

No two farm enterprises are more interdependent in the United States than the growing of corn and the raising of hogs. Cattle, sheep, and horses are raised both on farms

and on the open range, but hogs are usually confined within comparatively narrow limits and are almost always fattened on corn where that crop is available. In the extreme

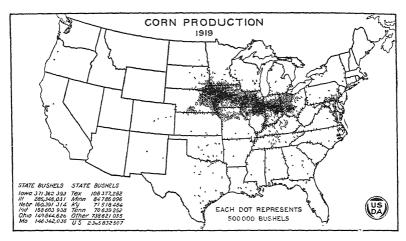


Fig. 17.—Compare this map with Figure 7 (Number of Hogs, 1920). Over half of the corn in the United States and nearly half of the hogs are produced in the Corn Belt.

Northern and Western States, where little corn is grown, it is shipped in for feeding to hogs, or its place in the ration is taken by barley and other grains. In the South, where corn often occupies a larger proportion of the improved land than in the States commonly included in the Corn Belt, a large part of the corn produced is fed to live stock, and farmers generally raise a few hogs for home consumption even though they do not grow them for market. Hogs consume as much of our corn crop as that consumed by all the other farm animals.

The close relationship between hogs and corn is shown by comparing Figure 7, number of hogs on farms on January 1, 1920, with Figure 17, production of corn in 1919. On these maps the darkest areas, indicating the heaviest production, practically coincide, extending from central Ohio through the Corn Belt States to northeastern Kansas, central Nebraska, southeastern South Dakota, and southern Minnesota. Both hogs and corn are less densely distributed over the southern United States westward to central Texas, with the exception of southern Florida and the Gulf Coast region of Mississippi and Louisiana. Hog production is

more general in the extreme Northern States and in the Western States than is the production of corn, the place of corn in the hog ration being taken in these areas by other grains. Hogs are less numerous in central and northern Illinois than in Iowa, northern Indiana, and western Ohio, although corn production is fully as heavy. This diminished hog production is due to the proximity of this section to the Chicago corn market, making it possible for growers to sell their corn profitably as grain.

Figure 18 shows that there is a marked relationship between corn production in the United States and the number of hogs packed the following year. Although there are some wide divergencies in the two curves, in general the hog curve follows the corn curve quite closely. Sometimes the full effect of a large corn crop on hog production is felt quite as much the second year afterwards as the first. The usual immediate effect of a large corn crop is to decrease for a few months the number of hogs going to market, both because farmers are inclined to feed their hogs longer when corn is abundant and because more breeding sows are retained for future production. After the period of decreased marketing there is a heavy movement of hogs beginning with those

CORN PRODUCTION OF THE UNITED STATES 1885-1920 AND HOGS PACKED IN THE WEST THE FOLLOWING YEAR.

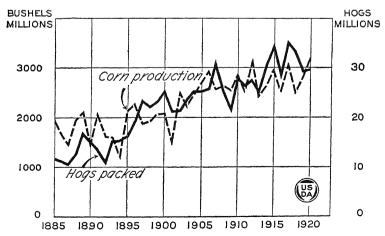
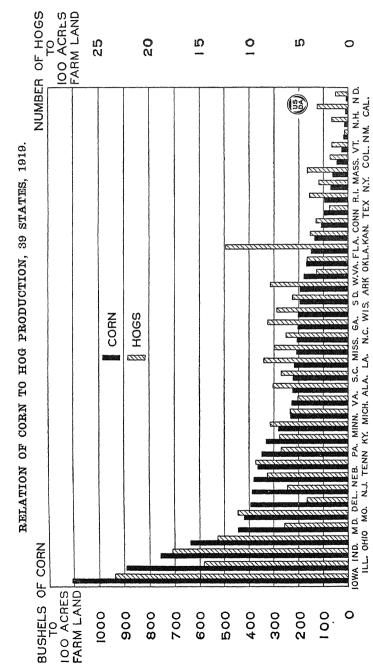


Fig. 18.—There is a close correlation between the number of hogs packed in the West and the trend of corn production of the United States. It is noticeable, however, that the number of hogs packed has increased more rapidly than corn production.



the average number of hogs to each 100 acres. Iowa leads not only in total corn and hogs, but also in production per unit area, the Frg. 19.—In this graph the average number of bushels of corn produced on each 100 acres of farm land in 39 States is shown, along with figures showing a production of 1,109 bushels of corn and 24 hogs to each 100 acres of land in farms. It will be noted that in the Corn Belt there is relatively more corn than hogs, whereas in the States of the Cotton Belt and dairy region there are relatively more hogs than corn. In these latter regions hogs are fed more extensively on other feeds than in the Corn Belt.

held for longer feeding and continuing with the sale of the increased spring-pig crop. Not only is the number of hogs going to market the year following a big corn crop likely to increase, but the average weight of these hogs is usually heavier. This is due, of course, to the fact that fewer light hogs are shipped when feed is abundant.

The relationship of hog raising to corn production is also shown in Figure 19, in which the average number of bushels of corn produced on each 100 acres of farm land in 39 States is shown graphically along with the average number of hogs to each 100 acres. Illinois, Indiana, and Ohio, all important States in both corn and hog production, fall far below Iowa in the production of both corn and hogs per unit area, but hog production follows corn production very closely, except in Illinois. As previously noted, a large proportion of the corn crop of this State is shipped to Chicago and other northern Illinois markets as grain and is not fed to live stock. Likewise proximity to corn markets at Philadelphia and Baltimore explains the smaller ratio of hogs to corn in Maryland and Delaware.

In the States where corn production is heaviest, it will be noted that the line representing hog production usually falls below the corn line, whereas, in the States where the intensity of corn production is lower, the line representing hog production usually runs above that representing the production of corn. These latter States are all in the dairy belt or in the South. In the dairy belt the corn ration is supplemented to a considerable extent by skim milk and barley, which is an important crop in those States. In the Southern States the corn ration is supplemented by peanuts, cowpeas, and other crops, and large numbers of hogs are fattened on mast.

The relatively large production of hogs in Missouri in comparison with corn production is due to an unusually low yield per acre of corn in that State in 1919. A marked divergence between hog and corn production is shown by the Florida figures, due to the fact that many hogs in that State, as well as in other Southern States, run comparatively wild in the woods and are fed little corn. Nine States in which the production of corn falls below 10 bushels to each 100 acres of farm land are not shown. In these States the

production of hogs is also very small, ranging from 2.87 to 100 acres of farm land in Idaho down to 0.48 in Montana.

Soft Pork.

Soft pork is a serious problem in the South and Southeast. Fresh pork from a soft carcass is soft, flabby, and



Fig. 20.—Hogs harvest peanuts from fields which have been planted for them, or are turned into fields after a peanut crop has been harvested to feed upon those left in the ground.

difficult to handle. Further, if the carcass is oily, as well as soft, the fresh cuts are oily and greasy. Smoked meats from soft hogs lack firmness and usually present a greasy appearance. The lard lacks body and when derived from oily carcasses is usually in a fluid state at ordinary temperatures. Such lard, of course, is exceedingly difficult to handle and is generally undesirable.

Certain feeds are generally assigned as the principal causes. Of these the peanut is the most important. However, soy beans, mast, and rice by-products, and probably other causes aside from feed, are responsible in many instances for the production of soft pork. The soy bean, in particular, has a wide adaptation in the United States and is gaining rapidly in favor as a pasture crop for hogs, especially in the Middle West, where hogs are produced in largest numbers. It is because of the existence and wide distribution of these feeds that a nation-wide aspect is given

to the problem. The peanut-growing section of the United States, however, is the principal soft-hog territory.

The fact that products from soft hogs are inferior in grade to those from firm hogs has resulted in producers being compelled to accept a lower price for them. The difference in the prices paid for soft hogs and firm hogs has varied considerably at different markets and at different times, but probably averages about 2 cents per pound live weight. It is not difficult to understand that such a discount represents a huge sum when considered for the total of soft hogs and for a long period of time. It is necessary to regard it as a serious loss to producers.

Diseases and Ailments of Hogs.

Any diseased condition affecting hogs adds to the cost of production in direct proportion to its seriousness. The principal diseases seriously affecting the hog industry of the country are hog cholera, tuberculosis, and hog "flu," together with certain parasitic infestations.

Hog Cholera.

Before the discovery of the preventive-serum treatment, approximately 90 per cent of all death losses among hogs were due to cholera. Since immunization practices against this disease have been in vogue that percentage has been lowered considerably. However, the cost of immunization,

LOSSES PER THOUSAND OF HOGS FROM HOG CHOLERA, 1896-1922.

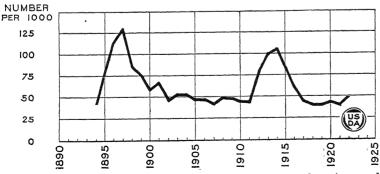


Fig. 21.—From 80 to 85 per cent of the death loss among hogs is caused by hog cholera. Infectious diseases usually occur in distinct waves of high mortality. The peak of one hog-cholera wave was reached in 1897; the next, much lower, however, occurred in 1914. In 1922 the wave was slightly on the ascent.

sanitary practices, and direct loss, by death, among nonprotected hogs cause hog cholera to remain the most important of all diseases in increasing the cost of production of hogs.

Hog cholera is not known to be transmissible to any other form of animal life or to man. Because some of the symptoms and some of the tissue changes resemble human typhoid fever, some who are unacquainted with the facts have believed that a relationship existed between these diseases. They are, however, unrelated.

Most hogs are susceptible to hog cholera when exposed to it and the disease is highly fatal. The virus of the disease readily finds its way from infected to healthy herds, so that danger to unprotected herds always exists.

Hog-cholera losses since 1884 have varied from 144 deaths per 1.000 hogs in 1897 to 37.2 deaths per 1.000 in 1919. (Fig. 21.) Since 1913, when the use of protective serum and virus began, the death losses and monetary losses have been greatly reduced.

Table 3.—Estimated loss of hogs in United States due to

Year.	Hogs in United States.	Hogs lost, due to cholera.	Monetary loss, due to cholera.
	Number.	Number.	Dollars.
1913 1	57,900,000	6,064,470	58,833,653
1914	55,000,000	6,304,320	67,697,461
1915	59,600,000	5,541,971	54,332,549
1916	61,700,000	4,057,884	33,943,443
1917	60,700,000	2,959,322	32,475,190
1918	63,000,000	2,701,825	52,535,315
1919	65,300,000	2,815,004	62,042,683
1920.	62,000,000	3,377,032	52,666,045
1921	57,600,000	2,648,440	33,238,965
1922	58, 500, 000	2,774,033	27,906,772

¹ This year the preventive-serum treatment was announced and began to be used.

The monetary losses here mentioned represent the direct and immediate losses only for those animals which died. The varied additional losses incident to the presence of disease brings the toll levied by hog cholera to much larger figures.

General extension of immunization practices in infectious surroundings and early treatment in hog-cholera outbreaks prevent much of the losses formerly sustained. management during the prevalence of an outbreak and proper destruction of dead carcasses limit its duration and safeguard the surrounding territory against the spread of infection.

Tuberculosis in Hogs.

Second only to hog cholera in the toll of losses caused, though not so fatal, tuberculosis is a serious menace to the hog industry, hogs being peculiarly susceptible to this disease. Investigations regarding the transmission of tuberculosis from hog to hog have not been carried on to nearly the same extent as have these studies in relation to its transmission among cattle and human beings. That the disease is common is shown by the examinations of slaughtered carcasses at establishments where Federal inspection is maintained. Since about a third of the cattle and hogs of the country are not subjected to Federal inspection, available figures representing losses are approximately only two-thirds of the hogs actually affected.

Carcasses may be totally condemned, or "retained" for further examination and only the diseased parts condemned. Evidence of tuberculosis in a hog's carcass is a fair indication that tuberculosis exists in other animals—cattle and hogs—on the farm from which the hog was received.

Table 4.—Number of cattle and swine slaughtered, and those retained and condemned on account of tuberculosis at establishments where Federal meat inspection is maintained.

	Cattle.		Swine.			
Fiscal year.	Slaughtered.	Retained.	Condemned.	Slaughtered.	Retained.	Condemned
1907 1	5, 867, 642	24, 876	17, 117	26, 189, 026	362, 445	48, 544 77, 554
1908 1909	7, 116, 275 7, 325, 337	68, 395 100, 650	24, 371 24, 525	35, 113, 077 35, 427, 931	719, 279 860, 425	45, 113
1910 1911	7, 962, 189 7, 781, 030	123, 501 133, 551	27, 638 27, 186	27, 656, 021 29, 916, 363	792, 176 1, 117, 789	28, 880 31, 517
1912	7, 532, 005	160, 122 152, 560	35, 273 33, 001	34, 966, 378 32, 287, 538	1,643,100 1,809,751	42, 267 47, 632
1913 1914	7, 155, 816 6, 724, 117	143, 699	29,738	33, 289, 705 36, 247, 958	2, 201, 005 2, 774, 835	48, 252 66, 023
1915 1916	6, 964, 402 7, 404, 288	158, 239 190, 991	32,644 37,085	40, 482, 799	3,687,817	74, 109
1917 1918	9, 299, 489 10, 938, 287	218, 928 222, 787	46, 351 40, 692	40, 210, 847 35, 449, 247	3, 978, 168 3, 494, 587	76, 807 59, 740
1919 1920	11, 241, 991 9, 709, 819	205, 698 200, 917	37,600 37,762	44, 398, 389 38, 981, 914	4, 103, 376 4, 262, 719	65, 837 65, 609
1921 1922	8, 179, 572 7, 871, 457	173, 658 212, 978	33, 328 28, 804	37, 702, 866 34, 416, 439	4, 693, 305 5, 640, 061	64, 830 70, 304

¹ Covers 9 months from October 1, 1906, to June 30, .307.

Germs of tuberculosis reproduce naturally only in the bodies of susceptible animals and are eliminated in body discharges. Milk may harbor germs which were derived directly from diseased milk glands or by contaminations. Hogs become infected when raw milk containing tubercle bacilli is fed or when they eat the grain which has passed through tuberculous cattle in an undigested condition. Infection may also result from eating parts of carcasses of tuberculous animals. Probably the commonest source of tuberculosis in hogs is through feeding unsterilized dairy by-products from creameries and skimming stations.

It is confidently believed that the work of suppressing tuberculosis by the accredited-herd and accredited-area plans will result in a marked lessening of infection among hogs.

Hog "Flu."

Since the fall of 1918 there has been recognized a respiratory disease of hogs, appearing simultaneously among many animals of the herd, usually spreading to all, and independent of parasitic infestations and of hog cholera. The affection appears suddenly and is accompanied by symptoms of difficult, jerky, and wavelike respirations with nausea, high temperature, cough, and sometimes great prostration. Death occurs in only about 2 per cent of the affected cases and when recovery occurs the duration of the immediate symptoms is short, lasting usually not more than a week or 10 days. Damage occurs to the lung tissues, however, which is readily recognized at slaughter a number of months after the acute symptoms have passed.

The cost of production of hogs as affected by this disease is due to the considerable loss in weight during the existence of the disease and the slower gains consequent upon deficient lung action during the remainder of the period of development and fattening.

Trichinosis.

Rats are notorious carriers of filth-borne, disease-producing organisms and of parasites which affect man and domestic animals. The agency of rats in the maintenance and transmission of trichinæ, small worms injurious to man and hogs, is a notable example. The presence of the living encysted form of these worms in pork products renders such products dangerous for human consumption unless the meet is thoroughly cooked. The American export trade in

pork was at one time so seriously affected that, as a basis for developing this outlet for American production, the Federal Government from 1898 to 1906 made microscopic inspection of all pork exported to certain countries. This showed an average positive infestation with trichinæ of 1 out of every 71 of the more than 8,000,000 hogs thus inspected for export.

The history of cases of human trichinosis shows that pork products made from hogs slaughtered for home use on the farm and at small meat shops are the most important sources of this disease. Preventing the occurrence of rats about houses and yards where hogs are raised, handled, or slaughtered is, therefore, of great primary importance to the farmer in protecting the health of his own family, as well as to those engaged in the preparation and marketing of pork products and to the millions of people who purchase pork for food.

Other Diseases and Ailments.

A common trouble known as infectious sore mouth is due to entrance of microorganisms from contaminated soil into abrasions on the mouth parts of young pigs. Colics and digestive disturbances in hogs found commonly in other classes of animals are unusual. Affections of the kidney are frequently present but usually are associated with the more common infections. Diseases of the liver are especially common in pigs and are in most instances due to parasitic causes. Skin diseases when present result from the peculiarly favorable conditions for contaminations of the skin with filth and organisms which infect abraded surfaces or penetrate the skin directly. Several kinds of pneumonia are serious and result frequently in death. Hogs appear to be quite susceptible to respiratory affections.

The losses from the minor diseases, however, are less among hogs than under similar conditions in the other classes of domestic animals. Parasitic diseases and infectious diseases already discussed, on the other hand, exact a larger toll than the infections and infestations among other classes of live stock.

Elimination from production costs of unnecessary losses from disease are reflected in greater profits to the grower and lower costs to the consumer of pork.

Cost of Production of Hogs.

Too often the producer of hogs is prone to figure that feed, or even the quantity and value of corn in particular, measures the cost of producing hogs. As a matter of fact the relative share which feed plays in making up the total cost varies as the price of feed fluctuates in its relationship to the price level of the other cost factors. During the war period, with its high corn prices, the cost of those things other than feed necessary to produce 100 pounds gain in hogs could be purchased for the price of 1½ bushels of corn, whereas in the year 1921 it required the price of approximately 6 bushels of corn to meet these same expenses of production.

Corn Belt Data Obtained.

Cost figures gathered in Iowa and Illinois by the Bureau of Agricultural Economics of the United States Department of Agriculture for the year 1921 indicate that the average feed bill during the year constituted only 64 per cent of the total cost of raising and finishing hogs for market. (Figure 22 and Table 5.) Of this 64 per cent, 43 per cent was corn and the remaining 21 per cent consisted of feeds other than corn, including pasture and minerals. During the year 1921, when this cost study was made, the average price of corn in the sections of Iowa and Illinois studied was down to 35 cents per bushel, while the cost of labor, the taxes, marketing, and some of the other expenses of hog production had not dropped to the same general price level with corn. This accounts for the relatively small percentage of the total hog costs which feed made in that particular year.

Rather more than one-fourth of the total expense on hogs in 1921 was expended in interest and depreciation on hog buildings and equipment, in necessary veterinary hire, in insurance against losses among the hogs, in taxes on hogs that were on the farm at the time of assessment, in interest on money invested in the breeding herd, and in the necessary freight, commission, yardage, and other marketing expenses which were deducted from the sale price of the hogs. This same portion of the total cost also had some small items of miscellaneous expense, such as special trips to buy boars, telegrams, and the like. All these expenses, necessary in

addition to feed and labor, cost the farmer approximately \$1.65 for every 100 pounds of hogs he raised.

The total average cost of raising and fattening hogs on 51 farms in Iowa and Illinois in the year 1921 was \$6.08 per 100 pounds of marketable hogs.

The price of corn during 1921 was out of line with the price of those mill feeds that help so much in balancing the ration or in bringing the sows and boars through the breeding season in good condition. Every effort was made by these farmers to use corn up to the maximum and still not

COST OF PRODUCING HOGS IN IOWA AND ILLINOIS, 1921.

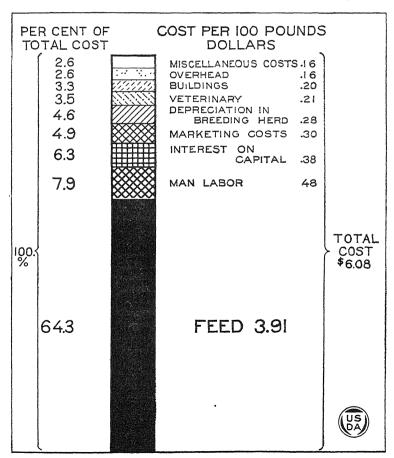


Fig. 22.—The average cost of growing hogs was \$6.08 per 100 pounds. Under conditions which existed in 1921, feed made up 64 3 per cent of the total cost.

injure their breeding stock nor hinder the growth of their pigs. Over the whole production period, from the time the sows were bred until all their pigs were fattened out and sold, corn was fed at the rate of 30 pounds to every pound of the protein meals.

Under those conditions, with corn relatively cheap and mill feeds high, the Iowa and Illinois farmers whose costs were studied used, on the average, 7.4 bushels of corn, 28.3 pounds of skim milk, 23.3 pounds of oats, 8.8 pounds of tankage, 3.2 pounds of oil meal, 1.5 pounds of mill feeds, about one-half month of pasture per head, 1.7 hours of man labor, and one-third of an hour of horse labor to make 100 pounds gain in hogs.

Table 5.—Average quantities of feed and other factors used in making 100 pounds of marketable hogs, 1921, Iowa and Illinois. (Fifty-one droves of spring pigs; 855,140 pounds of marketable hogs.)

Item.	Quantity	Per cent of total cost.
Kinds of feed.		
Corn (shelled basis—7.4 bushels)pounds	413.6	(43.1)
Feed other than corn—		
Oatsdo	23.3	h l
Barleydo	1.1	
Wheatdo	.04	
Sov beansdo	.4	
Tankagedo	8.8	
Oil mealdodo	3.2	(10. 8) 64. 3
Mill feeds 1do	1. 5	(-0.0)
Pumpkinsdodo	.4	
Skim milkdodo	28.3	
Alfalfa haydodo	.2	
Clover haydo	.5]
Pastureumt days 2	2.2	(9, 0)
Minerals	2.2	(1.3)
Bedding pounds.	7.3	(0.1)
Man laborhours	1.7	7.9
Interest on capital invested		6.3
Marketing costs.		4.9
Depreciation in breeding herd.		4. 9 4. 6
Veterinary		
Depreciation in buildings and equipment		3.5
Overhead.		3.3
Taxes, insurance, and other costs		2.6
The state of the s		2.6
Total		100.0

¹ Shorts and red dog flour.

² A pasture unit day is the pasturage required to carry five 200-pound hogs a day with no additional feed.

Causes of Variations in Costs.

There were wide variations in costs among the various farms, due to the differences in size of litters weaned, the differences in total pounds of marketable pork produced per sow, and the relative economies made in the use of feed and other cost factors. (Fig. 23.) The most economical pork produced was grown at a cost of \$3.76 per 100 pounds. In the same general locality another farm had a cost of \$11.56 per 100 pounds. Between these two extremes all the hogs under study were produced, most of them at a cost varying

VARIATIONS IN COST OF PRODUCING HOGS IN ILLINOIS AND IOWA, 1921.

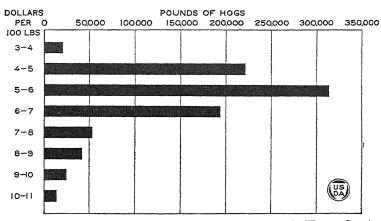


Fig. 23.—Most of the hogs on farms included in the study in Warren County, Ill., and Henry County, Iowa, cost between \$4 and \$7 per 100 pounds when ready for markets.

from \$4 to \$7 per 100 pounds, as is shown in the graph (Fig. 24). Of all the hogs on the 51 farms over 80 per cent were produced for less than \$7 per 100 pounds.

The size of litters at weaning time varied from 2 pigs in one drove to 8 pigs in each of three droves weaning the largest litters. Three droves weaning less than 3 pigs to the sow had an average pig cost of \$8.13; droves averaging 3 pigs showed a cost of \$6.24 per weaned pig; droves weaning 4 pigs, \$4.84 per pig; droves weaning 5 pigs \$4.93; droves weaning 6 pigs \$5; droves weaning 7 pigs to the sow showed a cost of \$3.35 per weaned pig; and the droves with an aver-

age of 8 pigs to the litter, \$4.45 per pig. The average cost per head at weaning time of the 3,574 pigs under observation was \$4.50. The extreme variation was from \$2.73 per pig in the drove having the lowest cost per pig to \$10.16 in the

COST OF WEANED PIG AND SIZE OF LITTER, 1921.

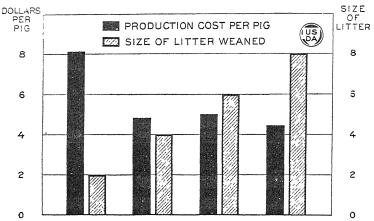


Fig. 24.—As the number of pigs alive and thifty at weaning time increased from 2 per sow to 8 per sow, the cost dropped from \$8.13 per weaned pig, in the 2-pig litter, to \$4.45 in the 8-pig litter.

drove having the highest cost. Cost figures on the pigs weaned include all feed and other costs upon their mothers from the day sows were sorted out in the fall to be bred up to the date of weaning. It also includes the feed and other costs for the boar while on the farm.

The one important cause of this wide variation in the cost of weaned pigs was the death losses in some droves, due in many instances to the careless management and feeding of the breeding herd. As Figure 25 indicates, 340 in every 1,000, or 34 per cent, of the pigs farrowed in the spring were lost before weaning time. More little pigs were killed by the mother sow lying on them than by any other one cause. The large number farrowed dead or so weak they could not stand up to suckle indicates that the selection of sows and their feeding and handling before farrowing are important factors in the health and vigor of the offspring. About 4.75 per cent of the hogs were lost after they were weaned. (Fig. 26.) As the cost of feeding and caring for the sow throughout the year must be borne

by her offspring, it follows that those sows whose litters are large and whose pigs are good "doers," making rapid gains, produce the cheapest pork. The farm averaging the smallest litters in the Illinois and Iowa area made 473 pounds of pork per sow in 200 days. The farm making the highest record for pork in 200 days made 1,759 pounds from an average of 7.27 pigs weaned per sow. Two farms producing an average of 8 pigs per sow ranked second and third, with 1,616 pounds and 1,435 pounds of pork per sow.

Fifteen of the 34 farms not buying stocker hogs made, on the average, over 1,000 pounds of pork per sow in 200 days. Among the nine droves making gains for less than \$5 per 100 pounds the *smallest* production of pork per sow was 972 pounds; among the hogs costing over \$7 per 100 pounds the *highest* producing drove made only 777 pounds per sow in 200 days.

Corn Equivalent of 100 Pounds Gain.

The quantity of corn or its equivalent required to produce 100 pounds of pork, when the entire herd is included, varied from $4\frac{1}{2}$ bushels in the drove making best use of feed to $16\frac{1}{2}$ bushels in the drove making poorest gains, with an aver-

DEATH LOSSES AMONG PIGS BEFORE WEANING, 1921.

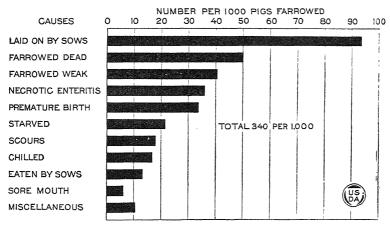


Fig. 25.—A loss of 340 in every 1,000 pigs farrowed, or 34 per cent under what may be termed normal conditions, presents a problem in breeding-herd management. Only a small proportion of the little pigs are lost by disease; the principal losses being from injury or weakness.

age of $8\frac{1}{4}$ bushels. (Fig. 27.) In addition to $8\frac{1}{4}$ bushels of corn or its equivalent in other grains, these hogs used from one-half to $3\frac{1}{4}$ pasture unit days, and an average of 1.7 hours

DEATH LOSSES OCCURRING IN THE BREEDING HERD AND AMONG HOGS AFTER WEANING, 1921.

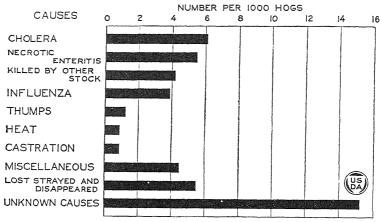


Fig. 26.—Losses after weaning are not so great numerically. But owing to the greater value of the hogs after weaning, the toll exacted is heavier than the chart indicates and practically all the losses are avoidable.

of man labor in the production of 100 pounds of pork. Farmers who selected sows with good breeding qualities, using care and diligence in the handling of the sow and her litter, and using good feeding practices, together with alfalfa or clover pasture, made the cheapest gains. To obtain the corn equivalent, the quantities of all feeding stuffs, other than pasturage, were expressed as the bushels of corn to which these other feeding stuffs were equal for fattening purposes.

Table 6.—Variation in the quantity of corn or its equivalent required to grow hogs, and its influence upon cost (Iowa and Illinois, 1921).

Bushels of corn and equivalent per 100 pounds of gain.	Number of droves.	Cost of producing 100 pounds of gain.
Less than 6 bushels	7	\$4,82
6 to 7 bushels	11	5.54
7 to 8 bushels	11	5, 49
8 to 9 bushels	11	5.93
Over 9 bushels	11	7.35

The farms requiring the least amount of corn or its equivalent to make 100 pounds of pork were those that carefully selected their gilts from large litters of thrifty pigs and the farms that held over the brood sows that had formerly produced large litters and brought them through to weaning time in good condition. The very marked influence which the number of pigs weaned per sow has upon the ultimate cost of pork made by the sow and her litter emphasizes the importance which care and management of the breeding herd have upon profits in hog production.

Marketing Hogs.

The market is the inspiration of the breeder, the hope of the feeder, the goal of the shipper, and the aim of all who produce a surplus of meat animals for human consumption. It either crowns the stockman's efforts with profit or sends him home with a loss. All roads lead to the market place, and there men learn whether or not they have produced wisely and well, for the market is a merciless judge.

History.

Marketing hogs and pork products was among the earliest of the commercial activities of the American colonists. At first surplus pork was used chiefly in provisioning ships,

VARIATION IN QUANTITY OF CORN EQUIVALENT REQUIRED TO PRODUCE 100 POUNDS OF HOGS, 1921.

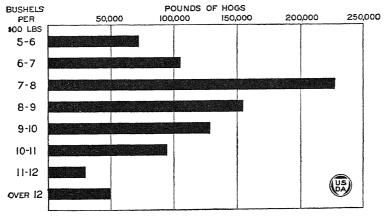


Fig. 27.—The quantity of corn and its equivalent in other feeds taken as a whole make the total corn equivalent. There is not an invariable ratio between corn and hogs; but, as this figure shows, the variation is wide between different farms in the quantity of corn used in making gain.

but in a short time it became an important item in the foreign trade of the country. Before the middle of the seventeenth century the Puritan uprising in England forced the West Indies to look largely to the American colonies for meat supplies, and as a result considerable quantities of both beef and pork were shipped to that southern market.

John Pynchon, of Springfield, Mass., is generally credited with having been the first American packer. Between 1662 and 1683 he bought and packed great numbers of hogs. In those early days both pork and beef were frequently used as a medium of exchange, some of the New England colonies accepting such commodities in payment of taxes.

The early live-stock markets at Boston, New Amsterdam (later New York), Philadelphia, and Baltimore handled considerable numbers of hogs. It is noteworthy, however, that hogs did not in those early days constitute so important an item of trade at the public markets as did cattle. This was probably due largely to the fact that most of the hogs were either slaughtered on the farms or by a country drover, who gathered up small lots and drove them to his own establishment for slaughter.

By the end of the eighteenth century there were considerable numbers of hogs in the Ohio River Valley. At this time both live and dressed hogs were loaded on boats and shipped down the Ohio and Mississippi Rivers to New Orleans. Great numbers were also driven east over the mountains to Baltimore and Philadelphia, droves containing 4,000 to 5,000 hogs occasionally being seen on the road at one time. During the early years of the ninteenth century fully 100,000 hogs went east annually. There were also great numbers driven south into the Cotton Belt. The southern farmer, because he devoted his energies almost exclusively to cotton raising, was forced to look to his northern neighbors for the major portion of his meat supply.

However, the hog never has been well suited to being driven long distances to market, though this deficiency has been due to causes which varied with the development of the hog industry. In the early days, when the hog was a longer-legged and more rangy animal than he is to-day and carried far less fat and total weight, although capable of traveling considerable distances and at a fair speed, he was usually so wild that it was almost impossible to herd him

satisfactorily. Old records contain some gruesome tales about how hog drovers stitched the eyelids of hogs together so that they might more easily be driven along the roads. When later, the type of hog was changed to that of an animal of comparatively short legs and carrying a large amount of fat and weight, he became incapable of traveling any great distance, particularly in warm weather. For these reasons the hog has generally been slaughtered and dressed not far from the place of production. In other words, when the hog goes to market he usually doesn't go far and he doesn't walk.

It was this fact which largely accounted for the rapid development of Cincinnati as a hog-packing center during the first half of the nineteenth century. Between 1815 and 1830 the Ohio Valley was the most important hog-raising section of the United States, and Cincinnati became world famed as a pork-packing center.

Hog production, and therefore marketing, followed close on the heels of corn production. As a matter of fact in the early days of the Ohio country the fact that corn could be sent to market in the form of pork was in no small degree

AVERAGE LIVE WEIGHT OF HOGS PACKED IN THE WEST AND YIELD OF LARD FOR 53 YEARS.

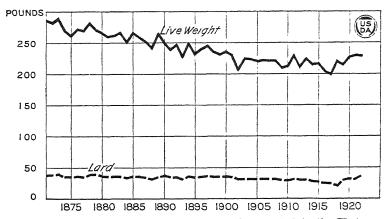


Fig. 28.—In 1873 the average live weight of hogs packed in the West was 289.5 pounds, compared with 228 5 pounds for the winter season of 1921—22. This shows the trend of consumptive demand toward animals producing lighter-weight cuts. The yield of lard per hog has not varied in proportion to the live weight of the animal. For example, in 1873 a 289-pound hog produced 40 pounds of lard, whereas in 1922 a 228-pound hog produced nearly 36 pounds of lard.

responsible for the rapid increase in corn production. Just as Cincinnati had depended largely on hog slaughter for its early and rapid growth so also did Alton, Edwardsville, and Chicago in Illinois. As early as 1818 there was some pork packed at a point near the mouth of Wood River, a few miles below Alton. By 1833 hog slaughtering and pork packing at Alton had assumed such magnitude that it was necessary to pass a city ordinance prohibiting slaughtering within the corporate limits without a permit. During the season of 1838 and 1839 Alton packed 22,400 hogs.

At Chicago pork packing first became an important industry about 1832. Owing partly to its location on the chain of Great Lakes which made it possible to send dressed meats east by water, Chicago developed rapidly as a packing The first shipment of live stock by rail occurred about 1852, the stock being loaded in ordinary box cars. In this shipment no provision was made for feeding, watering, or ventilation. During the season of 1861-62, Chicago packed over 500,000 hogs, and for the first time passed Cincinnati. From that time to the present time Chicago has maintained her position as the leading live-stock market and pork-packing center of the United States. About 1868 the transportation of meats under refrigeration began to be used. This revolutionized the meat industry, for it enabled the packers to slaughter the animals in the West and ship the meat under refrigeration to the consuming markets in the East. As population pushed westward and the limits of the Corn Belt expanded, other live-stock markets were established at St. Louis, Kansas City, Omaha, South St. Joseph. and Sioux City.

The relation between the freight rates on dressed and live hogs is influential in determining the location of meatpacking centers. The higher the freight rates the nearer the points of slaughter will approach the centers of production. The ease of shipping dressed meats is another factor affecting the location of packing centers. It is much easier to transport pork and pork products than it is to load, unload, feed, and water live stock. For these reasons a large proportion of the hogs are slaughtered close to the producing areas.

Hog Markets.

Probably 80 per cent of the hogs marketed in the United States pass through public stockyards. These central markets are scattered throughout the country, but, as might be expected, the largest hog markets are located in the area of densest hog production, which is the Corn Belt. As production of hogs increased there was a steadily increasing

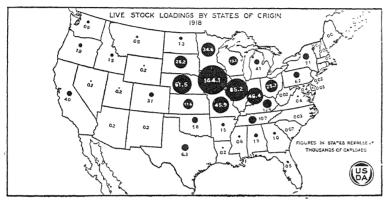
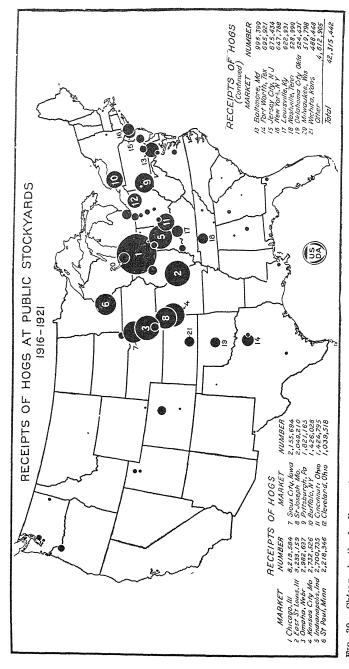


Fig. 29—In 1918 Iowa led in number of hogs loaded, with 144,105 cars; Illinois was second with 85,164 cars; Nebraska third with 61,480 cars; Indiana fourth with 46,362 cars, and Missouri fifth with 45,860 cars. Iowa loaded more than 25 per cent of all the hogs shipped during that year, whereas Missouri which was the fifth, loaded 8 per cent of the total.

demand for near-by and convenient marketing facilities. For this reason hog markets have always followed closely on the heels of hog production.

This fact is clearly indicated by Figures 29 and 30. Figure 29 shows the relative importance of each State with respect to the number of carloads of hogs shipped during 1918. Figure 30 shows the relative size of hog markets based on average annual receipts of hogs during the six years, 1916–1921. The five leading hog markets—Chicago, East St. Louis, Omaha, Kansas City, and Indianapolis—are located in four of the first five hog-producing States, Illinois having the first two markets, and Nebraska, Missouri, and Indiana each having one of the remaining three.

This tendency to bring the market and slaughtering facilities as near as possible to the point of hog production is perhaps more strikingly shown by a study of the average weight of hogs received at the various markets. (Fig. 31.) Such a study brings out the fact that the receipts of hogs



receipts. Omaha was third, Kansas City fourth, and Indianapolis fifth during this period. Most of the hogs purchased at these mar-Chicago received considerably more than twice as many hogs as did East St. Louis, which was the second market with respect to kets were slaughtered at the same points. About half of the hogs slaughtered under Federal inspection are slaughtered at the eight Based on the average annual receipts for five years, 1916-1921 Fig. 30.—Chicago is the leading swine market of the United States. middle western points shown on the map.

at each market represent the character of hog production in that immediate vicinity.

For example, Omaha is known as a heavy-hog market. The average weight of hogs at that point is generally higher than at any other important center, weekly average weights sometimes running as much as 100 pounds per head heavier than at East St. Louis. This condition might be expected in view of the fact that Omaha is situated almost in the heart of one of the surplus corn-producing areas where hog production is conducted in an intensive manner. East St. Louis, being located nearly on the border line between the Corn Belt and the Cotton Belt, has the lowest average weight of hogs of all the important markets. Considering yearly average weights over the period 1915 to 1921 Omaha stands first, Sioux City second, St. Joseph third, Chicago fourth, St. Paul fifth, Kansas City sixth, and East St. Louis seventh.

Methods of Marketing.

Methods of marketing hogs vary from time to time and in different parts of the country, but for the country as a whole it is believed that at present approximately 85 per cent of the hogs packed pass through one or another of the public stockyards and that approximately 15 per cent reach

WEEKLY AVERAGE WEIGHT OF HOGS RECEIVED AT FOUR LEADING MARKETS, 1921.

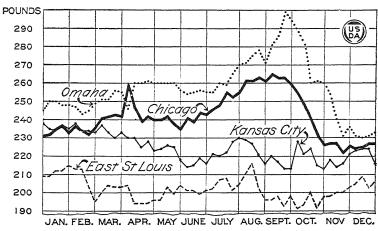


Fig 31—As a rule the average weight of hogs marketed at Omaha is higher than at any of the other three leading middle western markets. Chicago is usually second in this respect, Kansas City third, and East St. Louis fourth.

the packing house via other routes. The more important present-day methods of marketing may be listed as follows:

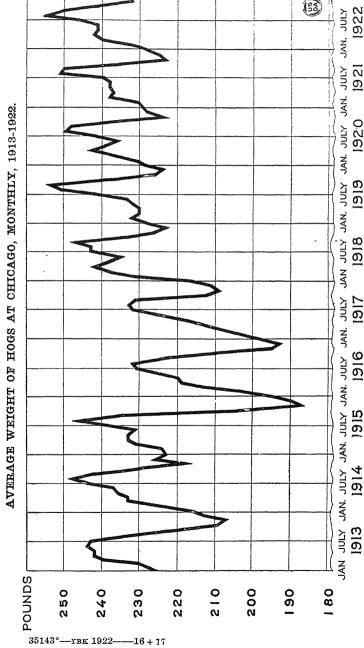
- 1. Producer shipments:
 - (a) To central markets.
 - (b) Direct to packers.
 - (c) Slaughter and sale of products by farmers.
- 2. Local sale:
 - (a) To the country drover.
 - (b) To the packer buyer.
 - (c) To local butcher.
- 3 Cooperative marketing:
 - (a) Through shipping associations.
 - (b) Through auction sales.

Producer Shipments.

Some producers ship their own hogs in carload lots. Such shipments may go either to a central market or direct to a packing house. A survey made in 1914 and 1915 indicated that of the total hogs marketed the percentage shipped to central markets directly by producers ranged from none in most of the New England States to as high as 57 per cent in Wyoming. The New England States and Wyoming, however, are not important hog-producing States. In the Corn Belt, where most of the hogs are raised, the percentage shipped to market by the producer ranged generally from 15 to 24 per cent, with Nebraska reporting as high as 35 per cent so marketed.

Most of the hogs sent by producers directly to market are consigned to the stockyards, but some producers and shippers ship direct to the packing house, thereby eliminating stockyard charges. This is not an important method of marketing, except in certain sections. In Kansas City one packing concern maintains a private stockyard simply for the purpose of receiving shipments that come to the concern direct from the country. Some days this private yard receives a larger number of hogs than the public stockyard in that city. Also in St. Louis there is a packing concern which often receives on a given day more hogs than the National Stock Yards, generally referred to as East St. Louis, across the river, despite the fact that the latter market is the second largest hog market in the country.

A third form of marketing involving direct shipment by the producer is one in which hogs are slaughtered and



and lowest in November or December, when the run of logs tarrowed the preceding spring assumes large proportions. Including the past nine years the average weight of hogs was lowest (187 pounds) in the autumn of 1915, and since 1918 has been very steady, Fig. 32.-The average weight of hogs marketed is usually highest in August or September, when most of the packing sows are marketed, except for seasonal fluctuations, ranging around 240 pounds.

dressed on the farm and shipped to some consuming center and sold. This method of marketing is relatively unimportant in the large hog-producing areas. In New England, the Cotton States, and the Pacific Northwest, however, it comprises a considerable proportion of the hogs marketed. For example, in the survey of 1914 and 1915 the per cent so marketed in the New England States ranged from 20 to 33, in the Cotton States from 5 to 27, and in the Pacific Northwest from 4 to 33. It is probable that with the increase in the number of packing establishments and improvement in central market facilities which have occurred during recent years, this practice of marketing farm-dressed hogs in the carcass is not so prevalent as it was eight years ago.

Local Sales.

Considerably more than half the hogs marketed in the United States are sold by the producer in the country. These local sales may be either to (a) country buyer, (b) local butcher, or (c) the packer buyer. These three agencies are listed in the probable order of their importance based on the number of hogs handled.

Country Buyer.

Probably more hogs still reach the market through the country buyer than by any other single agency. In the survey referred to above the per cent of hogs marketed through the country drover ranged all the way from none to 69 per cent. In the Corn Belt States the percentage ran high, ranging from 45 per cent in Nebraska to 69 per cent in Missouri.

The strength of the local buyer as a marketing agency has always rested largely on the fact that he stands ready to buy anywhere from one head to several carloads of animals and thereby provides a ready market for the small-lot producer. As a rule he takes whatever the producer has to offer and pays cash in hand. He assumes all risk and pockets all profits of marketing.

During recent years, however, the country buyers' activities have been seriously curtailed by the cooperative shipping associations. This type of organization competes successfully with the country buyer for the reason that it provides for the small producer the same sort of service that the

country drover does and, in some instances at least, provides this service at a lower cost.

Country Butchers.

Although in the Corn Belt comparatively few hogs are sold direct to the country butcher, there are sections of the country, notably New England and the Cotton States, in which a very large percentage of the hogs are marketed right at home. The survey made, 1914–15, indicated that in Connecticut nearly 62 per cent of the hogs went to local butchers and in Louisiana approximately 63 per cent were so marketed. Obviously this system of marketing is suited only to sections of small production. Any territory, such as the Corn Belt, where a large surplus of hogs is produced, must, of course, depend on other means for an outlet.

Packer Buyer.

In certain sections of the country packer buyers or agents go to the farms and buy hogs direct from the producers. This policy is confined almost entirely to those sections of the Corn Belt where hog production is most highly developed. In this system of marketing the packer buyer supplants the country drover and is able to do so chiefly because he is relieved of stockyard charges which the country drover, as a rule, must pay.

Cooperative Marketing.

Cooperative marketing of hogs is increasing steadily and rapidly; in certain parts of the country more than half of the hogs are now marketed in this way. Iowa, Minnesota, and Wisconsin have made rapid strides, and in other sections of the country the system seems firmly rooted. Cooperative marketing has appeared in various forms, but the most important are the cooperative shipping associations and the auction sale methods.

Shipping Associations.

The most popular method of marketing live stock cooperatively is through cooperative shipping associations. In 1921 Iowa had more than 600 such associations and it is

estimated that at the present time there are, in the country as a whole, between 5,000 and 6,000 organizations of this sort.

Probably between 75 and 80 per cent of the business of cooperative shipping associations consists in marketing hogs. This is true because hogs lend themselves more readily to cooperative shipping than any other class of meat animals. Despite its concentration in the Corn Belt, hog production is probably more widely dispersed than that of any other meat animal. Almost every farm produces at least one or two hogs annually. The assembling of these small lots of hogs and getting them to market provides an excellent opportunity for cooperative effort. A survey made in 1921, which covered 210 live-stock shipping associations and companies handling live stock, and a total of 1,133,000 head of stock, showed that, on a head basis, hogs constituted more than 83 per cent of the business of the associations.

The advantages of cooperative shipping have been pointed out too often to require restatement here. One advantage, however, which has not received so much attention as it deserves is the fact that every successful shipping association depends largely for its success on a lively interest in the organization on the part of its membership.

This necessitates the individual members and producers gaining at least a working knowledge of the machinery involved in handling live stock between the farm and the consumer's table. More intimate knowledge concerning these various factors and instruments of marketing makes for more intelligent action on the part of the producer, both with respect to his production and also his marketing methods.

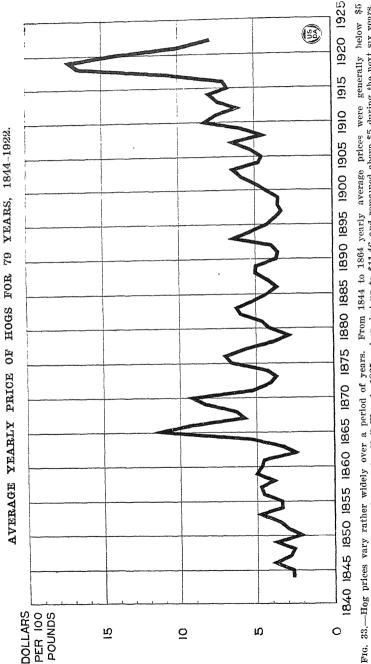
A rather interesting feature in this connection is found in the fact that the country buyer was in a sense an outgrowth of cooperative marketing. In the early days producers in many instances pooled their stock and either took or sent it to a market. This soon developed the need for a manager or some one who would be responsible for the enterprise. Presently it was found simpler to sell the stock to the manager and allow him to assume all responsibility and all risk.

Likewise at present, although early in the development of organizations of this sort, individual members usually exhibit a lively interest and exercise an active supervision over the activities of the manager: as time goes on there is a natural tendency to leave the actual management of the association more and more to the man in charge. This is particularly true of associations having competent management. The logical result of this attitude on the part of the membership is for the control of the organization to center more and more in the hands of the manager. With this in mind, it will be interesting to watch the development of the cooperative movement and see whether or not, in the course of events, the manager will ultimately again metamorphose into the country buyer.

Auction Sales.

Another form of cooperative marketing of hogs which has met with a measure of success in certain restricted areas is one which utilizes the auction as a selling agency. Although this method of disposing of live stock has always been extensively used in connection with breeding stock, it has not, for certain rather obvious reasons, been used to any considerable extent in connection with marketing live stock intended for slaughter. In the Southeastern States auction sales of market hogs have for several years past been conducted at various points and at irregular intervals. Frequently county agents are sponsors for such sales and are responsible for their conduct. As a rule both producers and buyers are advised as to the time and place of the sale, the hogs are assembled and buyers bid on them in small lots. These hog sales have at times been successful, but at other times they have not given complete satisfaction.

In California the auction method has been developed to a rather high degree. An association with a paid manager has general charge of the sales which are held each week, on regular days, and at specified places. A rather unique feature of these sales consists in the fact that the manager of the association, who represents the producers, has the right to make one bid on each lot of stock. This provides protection for the producer against any possible collusion between buyers which might have for its purpose undue depression of prices. These sales have been going on for



per 100 pounds. Toward the close of the Civil War, in 1865, prices shot up to \$1146 and remained above \$5 during the next six years. From 1872 to 1907 yearly average prices langed generally from \$1.50 above to a similar amount below the \$5 level. In 1908 prices succeed the \$K line and have remained above that boint evel since.

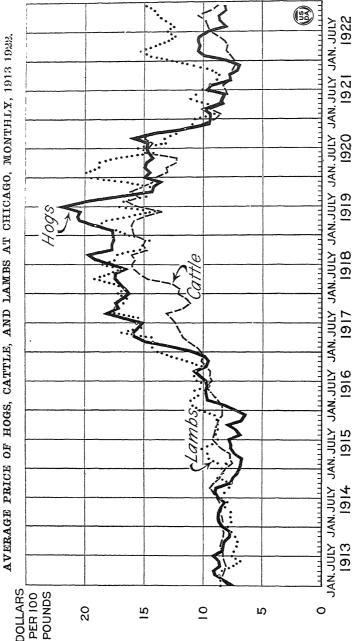
the past three or four years and apparently have given a reasonable degree of satisfaction to all parties concerned.

Factors of Marketing.

Prices.—Obviously many factors enter into the control of market movements of hogs. Furthermore, the degree of influence varies somewhat with the time and locality. At all times and in all places, however, price is the dominating influence. High prices overcome virtually all obstacles. They bring a rush of stock to market even in times of scarcity and sometimes draw stock from great distances. Commodities of all sorts, and particularly live stock, follow peak prices across the map just as iron filings follow the magnet. No distance is too great and few obstacles too imposing to prevent a flow of live stock to a given point, provided the price is sufficient to warrant the effort. Distance, weather, transportation difficulties, and virtually every other difficulty is overcome by a sufficient advance in prices.

Hog marketing probably has made a nearer approach to an exact science than has that of any other important class of meat animals. Freight differentials from producing areas to market centers are carefully calculated, as are also all of the important items of marketing expense. For this and other reasons hog prices undoubtedly show greater uniformity the country over than those of other animals. Each market has its place in the general price scale. If for any reason temporary local conditions advance or depress hog prices at a given market in such a manner as to put that market "out of line" with the general level, a compensatory shift or change in the flow of supplies to that market very quickly brings about a restoration of the equilibrium and the market again assumes its normal position.

In view of the importance of price in determining movements of hogs to market it may be of value to consider the trend of hog prices over a period of years. Figure 35 shows the course of prices from 1844 to 1922. These prices, which represent the cost of hogs packed in the West during the winter season of each year, indicate that the market reached the lowest point (\$2.13 per 100 pounds) during the winter



Frg. 34.—Under the fairly normal conditions existing from 1913 to 1916 cattle, hog, and lamb prices showed a very close correlation. During 1917 and 1918 hog and lamb prices pulled away from those of cattle. Hog pieces continued upwaid to 1919, but cattle and lamb prices, as a rule, did not advance to the extreme heights reached by hogs By the middle of 1920 the three classes Since 1921 lamb prices have been higher than prices of hogs and of meat animals were again selling almost on a parity cattle.

of 1849, and the highest point (\$17.27) in 1918 which was the last year of the World War.

There are, however, various ways of expressing value other than in dollars and cents. In fact a study which is confined to dollar and cent prices frequently leads to erroneous conclusions. A more accurate conception of the actual status of a commodity or industry is frequently gained by a study of comparative purchasing power of different commodities. Generally speaking it is of little consequence whether hogs sell at \$10 or at \$15 per 100 pounds. The thing which concerns the producer much more vitally is whether or not the money price obtained for his hogs will bring in return a commensurate quantity and quality of other commodities which he must purchase. With this in mind it may be of value to note the vast difference which exists from time to time between money values and purchasing power of hogs.

Using prices of hogs and of other commodities in the year 1913 as 100, a comparison of the indexes of the money price of hogs packed in the West during the winter season from 1845 to 1922 with the purchasing power of those prices, develops some rather striking facts. (See Fig. 35.)

From 1844 to 1913 the price of hogs packed in the West advanced more rapidly than the general commodity price level. If it is assumed that in 1913 a dollar's worth of hogs would purchase a dollar's worth of other commodities, in 1844 a dollar's worth of hogs would purchase only 37 cents worth of other commodities.

Toward the close of the Civil War the price of hogs rose to \$11.46 per 100 pounds, which was 44 per cent above the 1913 level. At the same time the purchasing power of hogs rose to 86 per cent, which was the highest point reached since 1844. Following the war hog prices declined rather steadily until the winter of 1878–79, when they reached an average price of \$2.85 per 100 pounds for the packing season. That price was 64 per cent under the 1913 level. Furthermore, the purchasing power dropped to 40 per cent, a figure which had been equaled only once during the preceding 18 years.

From 1896 to 1909 hog prices advanced rather steadily, and in the last-named year averaged \$8.30 per 100 pounds. That price was 4 per cent higher than the 1913 average, and

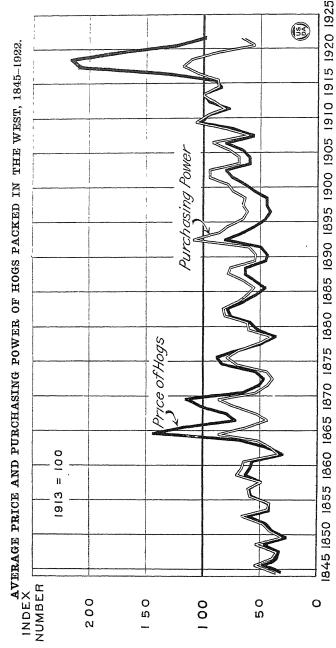


Fig. 35.—The market price of hogs and the purchasing power of that price in terms of other commodities are seldom the same. Since 1844 the purchasing power of hogs has exceeded the money price during 52 years. In three years the two were equal, whereas during the remaining 23 years the purchasing power was less than the market price. In 1921 the purchasing power of hogs was only about half of the 1913 average.

the purchasing power, which stood at 107 per cent, was the highest with one exception since 1844. The exception occurred during the winter of 1892-93, when the purchasing power of hog prices stood at 108 per cent.

The World War with its unusual demands and inflation of the currency brought an advance in hog prices and resulted in an average price of \$17.27 for the packing season of 1917–18. Although this price was 116 per cent above the 1913 average, it had a purchasing power only 11 per cent higher than that level.

The precipitous decline that occurred in all farm prices during the postwar adjustment carried hog prices to an average of \$7.92 during the winter of 1921–22. This was 1 per cent under the 1913 level. Hog prices, however, declined so much more than those of other commodities that the purchasing power of hogs became only approximately two-thirds of what it was in 1913.

Season-Climatic Conditions.

Although the marketward movement of hogs is not affected by weather and climatic conditions to nearly so

MONTHLY RECEIPTS OF HOGS; 67 PUBLIC STOCKYARDS.

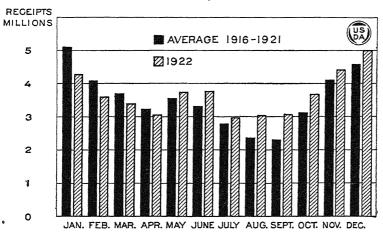


Fig. 36.—Movements of hogs to market vary widely at different seasons of the year. January usually brings the heaviest run. From then on receipts decrease until April During May and June movements usually uncrease, but from then on receipts at public stockyards decline steadily until the low point of the year is reached in September. During November and December receipts are generally heavy, but usually somewhat lighter than in January.

great an extent as that of cattle and sheep, movements of hogs to market nevertheless vary materially during different seasons of the year. The peak of hog receipts at public markets is almost invariably reached in January. Decem-

POUNDS BILLIONS LARD PORK

CONSUMPTION OF PORK AND LARD, 1907-1921.

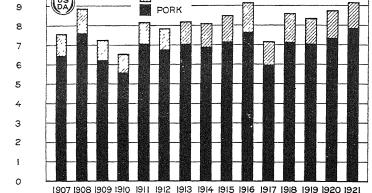


Fig. 37 -Since 1907 domestic consumption of pork was highest in 1921 and lowest in 1910. Consumption of pork and lard combined, however, was highest in 1916.

ber is second and November third in importance in that respect. September is usually the lightest month. (Fig. After September, receipts usually increase rapidly until the peak is reached in January. From that point they usually decrease until April. May and June generally show a rather marked increase in receipts, after which they usually decrease again until the fall movement begins in October. Rarely is there any marked variation in this schedule.

Climatic and the resulting feeding conditions are largely responsible for these fluctuations in the marketward movements of hogs. Sows are usually bred to farrow in the spring so that mother and pigs may be on pastures during the summer, in addition to a grain ration. By the end of the summer most of the pigs have attained the age and size where they can be put on a full ration of grain and other concentrated feeds. Six to eight weeks of such feeding makes them ready for the market and they begin moving to the great central markets in enormous numbers.

Consumption.

From one point of view, consumption should have been considered first among the factors of marketing. Obviously the aim of all production and all marketing is human consumption. Furthermore, consumption might be considered a more basic factor than price, for the reason that consumptive demand is an extremely important price-determining factor. In a sense, consumption is synonymous with demand and there is usually an interchangeable relationship of cause and effect between consumption, demand, and prices. Consumption may be considered under two general heads—domestic and foreign. (Figs. 37 and 38.)

Domestic consumption of pork varies from year to year, but it is noteworthy that during 11 of the past 15 years per capita consumption of pork and lard has exceeded that of beef, veal, lamb, and mutton combined. During 1916 consumption of pork and lard was 57 per cent of the total consumption of meat and in 1921 it amounted to 54 per cent. During 11 of the above years per capita consumption of pork, excluding lard, exceeded that of beef, its nearest competitor. In two years the per capita consumption of pork exceeded that of beef by approximately 17 pounds.

PER CAPITA CONSUMPTION OF PORK AND LARD, UNITED STATES, 1907-1921.

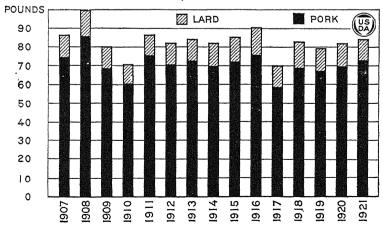


FIG. 38.—Since 1907 per capita consumption of pork was highest in 1908, when it amounted to 85.4 pounds, and lowest in 1917, when it was 58.4 pounds. Per capita consumption of pork and lard combined was highest in 1908, when it amounted to 99.7 pounds, and lowest in 1917, when it totaled 70.1 pounds.

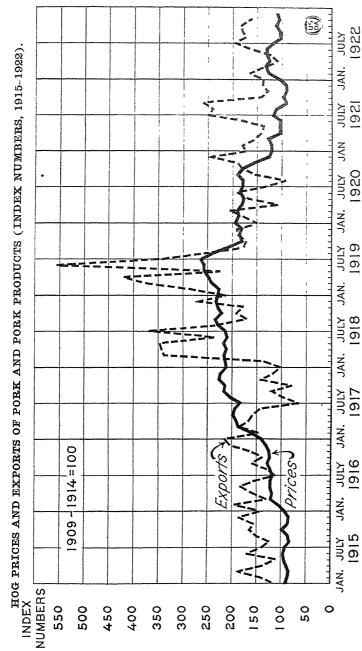
Since 1907 per capita consumption of pork, excluding lard, fluctuated widely, ranging from 58.5 pounds in 1917 to 85.4 pounds in 1908, an extreme variation of 27 pounds per capita. Converted into live hogs of an average weight this amounts to a variation of approximately 16,875,000 in the number of hogs consumed in the United States annually. Based on the estimated average annual slaughter of hogs for the past five years this would amount to a variation of nearly 27 per cent. It requires little imagination to picture what a variation of this sort means to the hog producers of the country. Fortunately there are certain compensations for this wide variation in domestic consumption.

Foreign trade in pork and pork products supplies a powerful counterbalance for domestic consumption and this outlet is of vital importance to the hog industry. The United States has always been an important pork-exporting country and has led the nations of the world in this respect. For the five years ending 1794 average annual exports of pork amounted to 7,649,000 pounds and those of lard to nearly 700,000 pounds. (Fig. 54.) By 1864 pork exports had increased to 162,000,000 pounds and those of lard to nearly 92.000,000 pounds. For the five years ending 1919 pork exports 2 averaged 1,179,000,000 pounds and lard exports 513,000,000 pounds per year. Normally our exports of pork and pork products represent from 10 to 12 per cent of all our agricultural exports and from 5 to 6 per cent of the total exports of all kinds.

Furthermore, foreign demand consumes from 10 to 24 per cent of our total production of pork and lard. During pre-war years exports of these commodities averaged a little more than 12 per cent of the production, but during the war such movements were materially increased. In 1919 export trade took more than 24 per cent of the total production of pork and lard and in 1921 the export movement (1,296,200,000 pounds) amounted to 15.5 per cent of the amount produced.

When these figures are compared with exports of other meat products the dependence of the hog producer on foreign consumption for an outlet for his products at once

² Fresh, pickled, canned, and dry-salt pork, bacon, hams, and shoulders



Export, have an important Fig. 39.—Foreign trade in pork and pork products shows much wider variations than do hye-hog prices effect on hog prices, the latter usually anticipating movements in the former

becomes apparent. For example, at no time during the past 15 years have exports of beef and veal exceeded 10 per cent of production. During the pre-war years from 1907 to 1914, such exports ranged all the way from 0.7 per cent to 4.4 per cent of total production. In 1918 foreign trade in those commodities reached 9 per cent, but in 1921 exports of beef and veal dropped back to the 1913 level, or less than 1 per cent of the amount produced. As might be expected, exports of lamb and mutton make a still poorer showing. During 12 of the past 15 years such exports were less than 1 per cent of production, in some years dropping as low as 0.2 per cent.

Expressed in dollars, total exports of merchandise from the United States during 1921 increased \$2,319,000,000 or 108 per cent over the pre-war average. Agricultural exports increased \$1,066,000,000 or nearly 100 per cent over that average. Exports of pork and pork products, on the other hand, increased \$138,000,000 or 128 per cent over pre-war figures.

Another way of considering our foreign trade in pork is to compare such exports with those of other important classes of meat. For example, the yearly average exports of meat and meat products from the United States during the five pre-war years, 1910–1914 amounted to 1,123,156,000 pounds. Of this total, pork and pork products constituted 81.3 per cent, beef and veal 18.4 per cent, and lamb and mutton 0.3 per cent. In 1919, which was the peak year for meat exports, the total outward movement amounted to 3,026,281,000 pounds. Of this total 87.2 per cent was pork and pork products, 12.7 per cent beef, and veal, and 0.1 per cent lamb and mutton. Total exports of meat in 1921 amounted to 1,820,947,000 pounds. Of this total, pork constituted 89.6 per cent, beef and veal 10 per cent, and lamb and mutton 0.4 per cent.

From the foregoing it is obvious that the hog producer deals with a commodity which enters extensively in world trade. This fact comprises both an advantage and a disadvantage. The advantage consists in the fact that the hog producer has a much broader outlet for his products than is enjoyed by either the cattle or sheep man. In other words the beef and mutton producers are more dependent on do-

mestic consumption than is the hog producer, though, of course, the home market consumes the major portion of the meat produced by each.

On the other hand, the hog producer is at a disadvantage for the reason that he logically comes to depend to a considerable extent on foreign buyers to take his surplus production. He counts on this outlet and conducts his operations accordingly. If, therefore, anything happens which materially reduces the foreign demand for pork and pork products he is likely to be caught with an oversupply and suffer severely as a result of a glut in the domestic market.

In view of the importance of this foreign outlet to the hog producer it may be of value to consider where most of our pork exports go. In other words what countries are the leading customers of the United States for such products? Also, what other countries export pork products and what is the extent of such competition with the United States for the world market?

The United Kingdom for many years has been the hog producer's best foreign customer. Frequently exports to the United Kingdom exceed these to all other countries combined. From 1910 to 1914 exports of pork and pork products to the United Kingdom averaged about 450,000,000 pounds. During 1918 and 1919 they were over 1,000,000,000 pounds, in the latter year amounting to 1,369,000,000 pounds. For the fiscal year ending June 30, 1922, such exports totaled 676,000,000 pounds.

Before the war Germany was our next best customer, exports to that country ranging from 94,000,000 pounds in 1910 to nearly 175,000,000 pounds in 1913. Immediately following the war, however, France usurped Germany's position in this regard, exports to that country in 1919 amounting to 425,000,000 pounds. More recently, however, Germany has come back as a customer of the United States, and in 1922 took 325,000,000 pounds of pork and pork products. France, on the other hand, took only 48,000,000 pounds. During that year Cuba was our third best customer, more than 110,000,000 pounds going to that small island country.

For many years past the United States has had no real competitor as a pork-exporting country. Despite its small

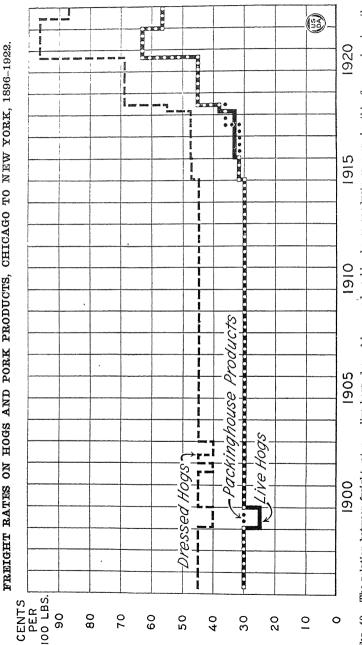


Fig. 40.-The relation between freight rates on live hogs, diessed hogs, and packing-house products is seen in this figure, showing the The rate on dressed hogs is normally about rates from Chicago to New York on these items, annually, from 1896 to 1922, inclusive. 50 per cent higher than on live hogs and packing-house products.

area Denmark has made the nearest approach. In 1910 Denmark exported 280,000,000 pounds of pork and lard, compared with 1,000,000,000 pounds exported from the United States. By 1914 Denmark's exports had increased to 364,00,000 pounds. The war, however, materially reduced Denmark's exports and in 1921 these amounted to only 98,000,000 pounds. In the same year the United States exported 1,631,000,000 pounds. In that year Canada was our nearest competitor with approximately 111,000,000 pounds exported, while Netherlands came next with 105,000,000 pounds.

Transportation.—Transportation has a vital bearing on market movements of hogs. In fact the development of the hog industry has been due to a very considerable extent to the extension and improvement of rapid and safe transportation. As has already been stated, the hog is not suited to being driven to market, and the producer must depend upon the railroads and other means of transportation. When about the middle of the last century trunk-line railroads were extended into the Corn Belt, and later on through to the Great Plains region, the hog industry received a tremendous impetus.

Exorbitant freight rates or inadequate transportation facilities of any sort are quickly reflected in the hog industry. Not only must there be adequate transportation for live hogs from the producer to the slaughtering establishment, but there must also be adequate facilities for transporting the dressed meat from the slaughtering points to the great consuming centers, the largest of which are along the Atlantic seaboard.

Partly because of difficulty in obtaining adequate and satisfactory rail transportation but more particularly as a natural evolution of transportation, the motor truck has, during the past few years, come to play an important part in getting hogs from the farm to the market. At many of the important live-stock markets fleets of motor trucks, some trucks capable of holding half a carload of hogs, are in operation daily. Many of these trucks run on regular schedule and cover a radius of from 50 to 75 miles on all sides of the market. These motor trucks have been particularly serviceable to the small-lot producer living at a considerable

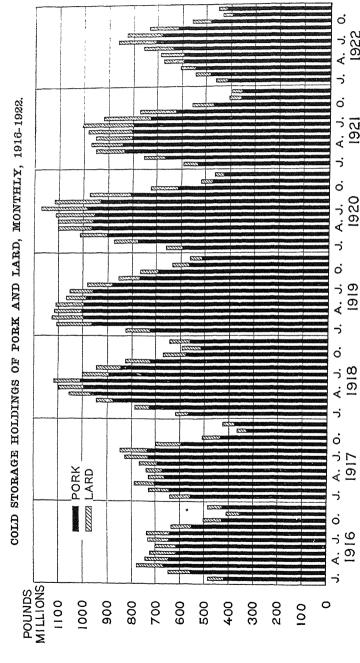


Fig. 41.-Quantities of pork and lard held in cold storage are usually greatest in July and August, although occasionally the peak is reached earlier in the year. From September to December withdrawals from storage are generally heavy, and, as a rule, storage holdings are lightest in November or December.

distance from a railroad. They have also rendered valiant service at various times when rail transportation was interrupted or curtailed by storms, strikes, or other untoward events. All the leading markets now have special facilities for handling stock delivered in this manner.

One of the important things to be considered in connection with marketing hogs is the matter of shrinkage between the time the hogs leave the farm and their passage over the scales at the market. The higher the price the more important shrinkage becomes.

Refrigeration.—Next to adequate transportation facilities, artificial refrigeration is probably the most important factor in present-day hog marketing. When it is considered that approximately 85 per cent of the carcass is held anywhere from a few weeks to several months, it becomes apparent that without artificial refrigeration it would be impossible to conduct the hog industry in anything like its present magnitude. Artificial refrigeration was developed in the late seventies and revolutionized the system of slaughtering and packing hogs then in existence. Formerly the packing season began when freezing weather arrived, or generally about November 1. It ended with the approach of spring, or about March 1. To-day slaughtering, curing, and packing of hogs goes on uninterruptedly every business day of the year. Furthermore, a refrigerator car makes it possible to transport fresh meats across the continent in the hottest weather without in the least impairing the condition or wholesomeness of the meat. It is obvious, therefore, that the refrigerator car and artificial refrigeration in packing establishments and warehouses are largely responsible for the year-round market which the hog producer enjoys.

Central market facilities.—Central market agencies, such as stockyards, commission men. scales, weighmasters, speculators, packer buyers, slaughterhouses, packing plants, coldstorage warehouses, and the like serve as complements to transportation. Each renders service to the hog producers and is responsible to a certain degree for maintaining a steady and orderly flow of pork from the farm to the consumer's table. Each of these agencies, therefore, constitutes an important factor in swine marketing.

Problems of Marketing.

The problems involved in marketing hogs are many and varied. These problems vary with location and time. The most important present-day marketing conditions with which the hog industry must contend are the following:

Price fluctuations.
The machinery of marketing.
Demand fluctuations.
Lack of standardization.
Lack of adequate market information.

Price fluctuations.—Sudden and wide fluctuations in price constitute one of the most important problems of marketing hogs. Such fluctuations will be considered in three general groups: Daily, seasonal, and cyclic.

Daily fluctuations are those which occur at all markets from day to day and even from hour to hour. Such daily price changes may range all the way from 5 cents to as much as \$1 per 100 pounds. The hog market is probably the most sensitive of the important live-stock markets. This is partly due to the fact that it has been more highly developed and subjected to greater refinement than has either the cattle or sheep market. As has been stated, pork products enter into world markets; consequently prices respond very quickly to changed economic conditions in almost any part of the world.

The fact that approximately 15 per cent of the hog is sold immediately as fresh meat might lead to the conclusion that the market for live hogs would be steadier than that for other meat animals. The fact that so large a percentage of hogs may be stored to supply future needs does, of course, tend to steady the market, when a considerable period of time is considered. On the other hand, the fact that hog prices respond quickly to changed world conditions, and the further fact that supplies may be increased or decreased in a much shorter time than those of beef, for example, make for a very sensitive market, and it is this sensitiveness that, to a very great extent, provides the basis for day-to-day fluctuations.

A fact which is sometimes overlooked or understressed by students of the hog market is that, in general, the long-time average does not materially affect the individual producer. The average man markets hogs once or twice a year. If he happens to have his hogs on the market on a day when some wild rumor of an impending strike, war, or some other upheaval has suddenly depressed prices, that producer usually suffers severe loss. Within a week the market may have recovered the whole amount of the decline, but that is of little consequence or consolation to the man who has sold his hogs on the decline.

In this respect the buyer has a tremendous advantage over the producer. The buyer is in the market almost daily throughout the year and can maintain an average cost. The producer on the other hand is in the market but once or twice a year and either profits or loses according to the market prices prevailing on those one or two days.

Seasonal price fluctuations are those which occur rather regularly at different seasons of the year. Under normal conditions such price movements follow rather well-defined courses year after year. (Fig. 42.) A study of weekly average prices of hogs on the Chicago market for 21 years,

AVERAGE WEEKLY HOG PRICES AT CHICAGO, 1901-1922.

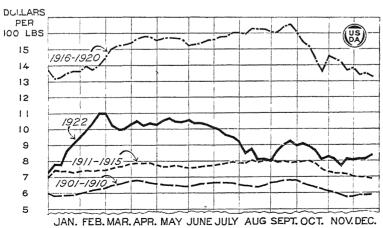


Fig. 42—As a rule, hog prices pass through two cycles each year. The high point is usually reached in August or September, and the low point in November. December, or January. The second high point generally occurs in April, and the second low point late in May or early in June.

1901–1921, shows that September stands out as the month in which the highest prices of the year occur more frequently than at any other time. In the same measure December usually records the lowest prices. In general, these price movements correspond rather closely with fluctuations in supplies. Generally speaking the month of lightest supplies usually develops the highest price, although peculiar conditions sometimes arise which upset this normal relationship.

Hog prices really develop a double cycle each year. In other words, there are two points during the year when prices swing upward and then downward. The spring rise usually begins as soon as the heavy winter marketing is over and reaches its peak in April or May. This is followed by a spring or early summer decline which usually culminates in May or June. Prices then generally advance until the peak is reached in September, after which prices normally break rather sharply until the low point of the winter decline is reached in November or December. Rarely does the spring advance reach as high a point as that of the late summer, and only occasionally does the early summer decline reach as low a point as that in the winter. Breeding operations on which the pig crop depends are largely responsible for this double yearly cycle of hog prices.

There is still a third movement of hog prices which extends over a longer period of time, usually of 3 to 5 years' duration. During the past 20 years there have apparently been five of these major cycles.

In January, 1901, prices were moving upward. From a weekly average of \$5.05 per 100 pounds for the first week of January of that year, prices advanced to \$7.79 for the week ending July 26, 1902. From that point prices declined until they reached \$4.28 in November, 1903, completing the first major cycle. An upward swing followed which by February, 1907, carried the market up to \$7.10. Financial depression then drove prices rather sharply downward until they touched \$4.31 in February of the following year.

In the third cycle prices reached their peak in April, 1910, when they touched \$10.88. This was followed by a decline to \$5.89 for the week ending May 6, 1911. The upward movement of the fourth major cycle carried prices

to \$9.40 in August, 1914. The outbreak of the European war disrupted the normal trend of events but prices broke to \$6.35 in December, 1915.

During the fifth cycle prices were influenced considerably by artificial efforts at stabilization. Following this a wild speculative movement in pork products still further disrupted the normal price trend. However, during the week ending July 26, 1919, average prices touched \$22.20 and the downward movement which began immediately carried the market to a weekly average price of \$6.75 for the week ending November 19, 1921. These major price cycles are usually governed by fundamental changes in the general economic situation.

Many factors enter into the determination of hog prices. Among the more important are supplies of hogs, the price of corn, domestic consumption of pork and lard, foreign demand for these commodities, the price of cattle and sheep and lambs, and the amount of pork products held in storage. Most of these factors are discussed elsewhere in this article, and the majority of them are illustrated by graphs. A comparison of the trend of these various factors with the trend of hog prices develops the close correlation between the groups and makes possible an approximation of the relative weight of the different factors at different times.

Machinery of marketing.—The whole machinery of marketing and each component part therof constitute a distinct problem for the hog producer. Every marketing agency possesses the power to influence vitally the return the hog producer obtains for his efforts. The country drover, the cooperative shipping association, and the packer buyer and speculator who buys in the country, all must be studied and understood by the hog producer if he is to get the most out of his hogs. The transportation company is vital to the hog producer, as are also the central market agencies such as stockyard companies, commission men, speculators, packer buyers, packing establishments, and all the other agencies which operate at central markets.

Even the wholesale and retail meat dealers have much to do with the success or failure of the hog producer. The thought that the producer's interest ends when he has sold his hogs either on the farm or at a central market is erro-

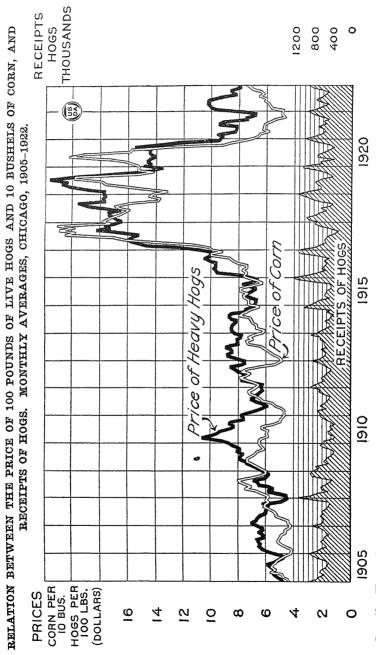


Fig. 43.—The profitableness of feeding corn to hogs rather than marketing the corn as giain depends chiefly on two factors—the market price of hogs and that of corn. Since 1905 hogs have shown a profit on the corn consumed a majority of the time. Rather striking exceptions to this rule occurred in 1908, 1917, and 1920.

neous. The packer, the wholesale and retail meat dealer, together with the foreign buyer or agent, all are essential to the hog producer, and unless each of them functions continuously and efficiently the results of such dereliction will be quickly reflected in the price the producer receives for his hogs.

Fluctuations in demand.—It has already been shown that wide fluctuations occur from time to time in domestic consumption of pork and lard. It has also been pointed out that within a space of 10 years, from 198 to 1917 inclusive, per capita consumption of pork fluctuated 27 pounds, or 32 per cent. Fluctuations in foreign demand frequently are even greater. For example, during the 10 years from 1909 to 1919, exports of pork and lard from the United States ranged from 707,000,000 pounds to 2,704,000,000 pounds, a net increase of 1.997,000,000 pounds, or 282 per cent. The war with its abnormal demands was largely responsible for this condition.

Demand also fluctuates with the season, with the geographical location of the consumers, and according to certain religious customs. During the winter season there is usually a good demand for fresh pork and bacon, whereas in the summer ham is usually in best demand. During the holiday season poultry and game materially reduce the demand for pork. Europeans consume more pork and lard than Orientals. Generally speaking, the consumption of such products is greater in northern than in southern Furthermore, the religious teachings of certain peoples, such as the Jews and the Turks, prohibit the eating of pork. All of these things are of vital consequence to the hog producer, and if he is to conduct his operations profitably he must have accurate knowledge of the more important factors which affect the demand for his product.

Standardization.—The lack of a standardized system of grading live hogs and dressed-pork products has always constituted a problem for the producer. However, the grading of hogs and pork products has approached much nearer generally accepted standards than has the grading of the other major classes of meat animals. The Department of Agriculture, some five years ago, when it started its live-stock and meat-market reporting service, came to a keen appreciation of the need of a uniform system of grades. If

trade conditions and prices at different market centers were to be compared it was essential that, for sale purposes, the animals be grouped according to some definite standard ap-

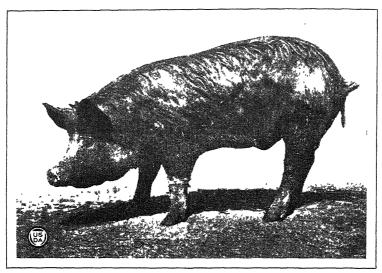


Fig. 44 -- Common light-weight hog

plicable to all markets. Work was started immediately on a classification of all hogs and dressed pork. Such a classification has been completed, and for the past four years has been

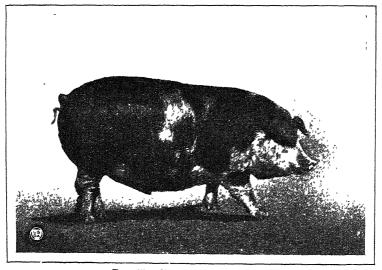


Fig. 45.—Choice light-weight hog.

in use at all public markets where the department maintains reporting offices.

In order to make a market report intelligible it is

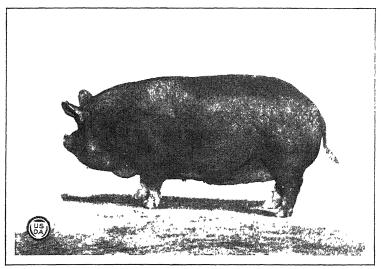


Fig. 46 -Smooth packing hog.

absolutely essential that the one who publishes the report and the reader should use the same definitions for trade and grade names. In other words, they must speak a common

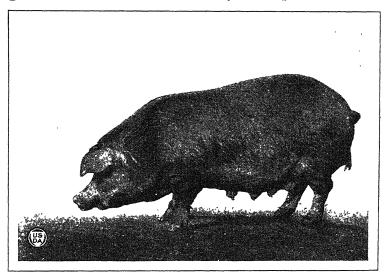


Fig 47.-Rough packing sow.

language. The department has endeavored to establish such a language, so that when market reports are published everyone interested may at all times understand exactly what is meant.

Market information.—One of the difficulties the producer of almost any commodity encounters is a lack of accurate, unbiased, and timely market information. In a market which fluctuates from 10 to 25 cents per 100 pounds within an hour it is quite essential that some agency be at hand to record those fluctuations and keep the producers in the country promptly advised regarding them. Many agencies compile and publish live-stock and meat-market information. The market news service of the Department of Agriculture, however, possesses an advantage over most of the other reporting agencies by virtue of its greater scope and also because it is absolutely disinterested. The only interest which a Government market reporter can have is to learn the facts just as they exist and convey that information as clearly and as quickly as possible to all who may have need for it.

Cost of Marketing Hogs.

A common method of treating cost figures is to use averages. A statement of the average costs of marketing hogs may easily be misleading, however, for averages obscure many significant details. The wide variation in the efficiency of operators and in the marketing services they perform makes this particularly true of cost of marketing data. For example, an average operating cost for a group of cooperative shipping associations failed to show that the cost for one association was 10 times greater than that of another organization doing a similar business. One organization in a group frequently has a cost double that of another.

That a given concern should have a cost greater than the general average does not necessarily mean that its cost is too high. It may mean that the concern performs a slightly more extensive marketing function, or that the conditions under which it operates do not permit of greater economies. If we are to avoid confusion of thought in discussing the costs of marketing a product, it is necessary that we keep in mind the probable variations in service and in efficiency, and that in discussing these costs we at all times relate the cost to the particular service performed.

Four graphs are presented comparing the chief terminal costs of marketing hogs at nine markets (Fig. 48), the extent to which animals were crippled (Fig. 49) and killed when shipped in straight and in mixed cars (Fig. 50), and the seasonal shrinkage in weight of straight and mixed shipments (Fig. 51). The principal items of expense of the local organization engaged in marketing hogs on a cooperative basis are briefly noted.

The graphs are based on statistics secured through a study of 224 organizations shipping live stock on a cooperative

CHIEF TERMINAL COSTS OF MARKETING HOGS, 1921.

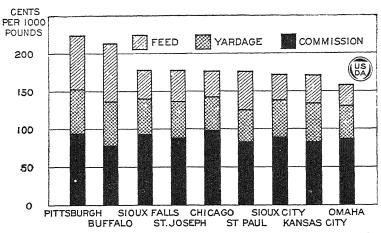


Fig. 48.—The terminal costs in 1921 in the nine markets varied from about \$2.25 to \$1.50 per 100 pounds. Commission is usually charged at a flat rate per car. Weight per car varies, also rate charges in different markets. Feed costs vary with distance from the Corn Belt.

basis. During 1921 these organizations shipped over 940,000 hogs, which were sold at the terminal markets for over \$18,000,000. They were located principally in the following States in and around the Corn Belt: Missouri, Kansas, Nebraska, Iowa, South Dakota, Minnesota, Wisconsin, Illinois, Indiana, and Ohio.

Trained investigators visited the cooperative organizations in each area and compiled the statistics from their books and statistical records. These figures were secured from only such associations as had fairly complete records, thus insuring accuracy. Owing to the large volume of the information secured, the results may be considered as fairly representative of the costs of marketing hogs cooperatively. One

266 Yearbook of the Department of Agriculture, 1922.

consideration, however, should be kept in mind: The statistics were secured from those concerns having the better records. Such concerns tend to be the more efficient and least expensive agencies in marketing.

Local Cost of Marketing.

The relative importance of the items of cost of operating the local agency is one but little considered, and still less understood. Every effort was made in this study to get ac-

LOSSES FROM CRIPPLED HOGS IN MIXED AND STRAIGHT SHIPMENTS, MONTHLY, 1921.

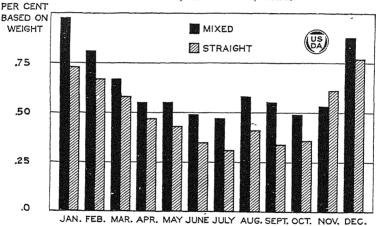


Fig. 49.—The average loss in the year 1921 of animals crippled in transit was about five-tenths of 1 per cent of thte total weight marketed. The damage was greatest in January and December.

curate figures concerning these costs, but there were so many variations in methods, and so little realization of the importance of keeping the items carefully isolated, that it has been practically impossible to secure an accurate analysis up to this time. However, certain figures are presented herewith showing approximately the total expense of operating such an organization. The figures given are averages of the local costs of 104 associations whose business was at least 80 per cent (by weight) in hogs.

Management expense All other	(per 1,000 pounds)	\$0.60 .37
Total		97

The variation from these average figures was wide. The most efficient associations had costs around \$0.40 per 1.000 pounds, while the least efficient associations had costs around

PERCENTAGE OF DEAD HOGS, IN MIXED AND STRAIGHT SHIPMENTS, MONTHLY, 1921.

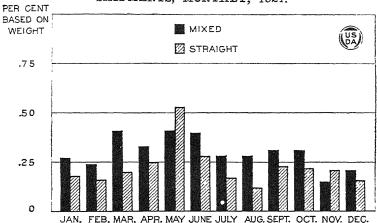


Fig. 50.—Hog losses in transit in 1921 were greatest in mixed shipments. The heaviest occurred among light hogs in winter, and heavy hogs in summer, a condition the reverse of that in the case of crippled hogs.

SHRINKAGE OF HOGS IN STRAIGHT AND MIXED SHIP-MENTS, MONTHLY, 1921.

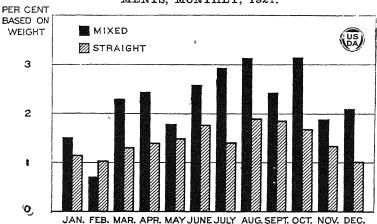
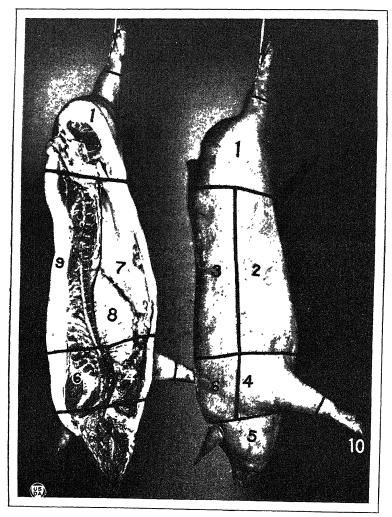


Fig. 51.—Mixed shipments suffered more shrinkage than straight shipments. Greater shrinkage occurred in summer than in winter. Wide variation-occur on account of size of animals, seasons, number in car, distance, temperature, and general handling in transit.

\$1.80 per 1.000 pounds. Generally the item of compensation to the manager comprises somewhat more than 60 per cent of the total local expenses.

The item of freight has not been given consideration in this discussion, for the reason that it varies with every association, and an average of all freight paid by all these associations would be meaningless and misleading.



CUTS OF PORK, HOME METHODS.

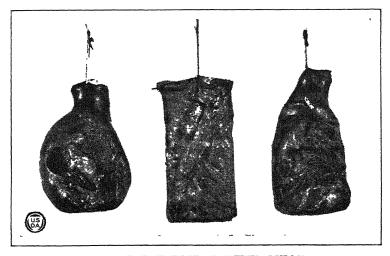
Fig. 52—Views of meat and skin sides of hog carcass.

2. Side. 3, Loin 4, Shoulder. 5, Head. 6, Butt. 7, Leaf lard. 8, Ribs. 9, Fat back. 10, Feet. The line separating 7 and 8 from 9 on the meat side correspond to the line of the line

Farm Slaughter for Home Meat Supply.

Farm slaughtering represents one of the methods of bringing hogs to the market. Statistics are not available to show the quantity of home-slaughtered compared with other pork that is consumed on farms. The aggregate of the meat prepared on farms for home consumption, however, is enormous. In addition, large numbers of hogs are slaughtered on farms and sold as dressed carcasses or as pork and pork products, both fresh and cured.

Home-cured pork products differ in some respects from those prepared for commercial purposes. Packing houses must cater to the public's demands, which at the present



WELL-TRIMMED SMOKED MEATS.

Fig. 53.—Greater uniformity in flavor and quality is found in smoothly trimmed hams, bacons, and shoulders than in roughly trimmed pieces. Thin, ragged edges tend to become dry and hard and the fat to become rancid.

time call for mild-cured, lightly smoked meats of light weights. The farm product ordinarily represents heavier meat, more heavily salted and smoked. The packing-house product is more uniform in trim, weight, degree of cure, and smoke than the farm-cured product. Farm-cured hams are generally superior to farm-cured shoulders or bacon.

On farms the meat is cured to keep for long periods of time. In many cases some of it is kept from the slaughtering season of one year until the slaughtering season of the following year. It is necessary for packing-house products to be preserved only sufficiently to enable them to be transported through wholesale and retail houses to the consumer for final consumption.

Farm practices in the curing of meats, like those of the packing houses are represented both by the dry-salt or dry sugar-cure method and the sweet-pickle or brine method. Dry sugar-cured hams are probably more generally prepared on farms than are sweet-pickled or brine-cured hams, and their quality is rather consistently good.

There is opportunity for the extension of approved methods of curing and smoking meats throughout the country to provide high-class products for use in the farm homes.

Lard and Its Relation to Vegetable Oils.

Fats and oils are not only a necessary part of our food requirements but also are required in the manufacture of explosives, paints, textiles, soaps, varnishes, leather, lubricants, and other products. One of the first resources of a nation to be affected in time of war by the abnormal conditions is its stock of fats and oils, not only from the food standpoint, but also from the sudden demand for enormous quantities of munitions, and especially for glycerin (which is a component part of fats and oils) to be used in the manufacture of nitroglycerin.

Potential Production in the United States.

Fortunately, unlike most other countries, the United States is self-supporting in its supply of fats and oils. The production of oil crops in the United States can be enormously increased over what it now is, both by more intensive farming and by the utilization of large areas which are available and suitable for cultivation of oil-producing crops. Our principal source of vegetable oil is cotton seed, but peanuts, soy beans, and sunflower seed also yield oils which can be used for edible and technical purposes. The production of cottonseed oil at present amounts to over 1,000,000,000 pounds annually. Some expansion is possible also in the production of lard, which in recent years has amounted to a total of over 2 billion pounds.

Substitutes for Lard.

Lard substitutes are variously known as lard compound, vegetable shortening, vegetable cooking compound, and simi-

lar terms. The lard compound is a mixture of lard or lard stearin with vegetable oils, while the so-called lard substitutes consist entirely of vegetable oils. For the purpose of discussion, both classes of these compounds will be considered under the term of lard substitutes. It is estimated that about 93 per cent of the lard substitutes consist of vegetable oils. Cottonseed oil is the principal one used in these substitutes, although very considerable quantities of peanut, soy bean, and corn oils are used. In 1920 it was estimated that about 80 per cent of the output of crude cottonseed oil in the United States, after refining, went into the manufacture of these products. The following table gives the production of lard and lard substitutes for a period of years. No data for lard substitutes are available except for the years given.

Table 7.—Production of land and land substitutes in the United States.

Year.	Lard.1	Lard substitutes.	Total production.	Per cent of lard substitutes to total production.
	Pounds.	Pounds.	Pounds	Per cent
1912	1, 643, 000, 000	2 877, 000, 000	2, 520, 000, 000	35
1914	1,652,000,000	2 1, 137, 000, 000	2,789,000,000	41
1916	1, 973, 000, 000	2 1,027,000,000	3,000,000,000	34
1917	1, 577, 000, 000	2 1, 173, 000, 000	2, 750, 000, 000	43
1918	2, 015, 000, 000	2 1, 146, 000, 000	3, 161, 000, 000	36
1920	2, 022, 000, 000	8 1,000,000,000	3, 022, 000, 000	33

1 Figures compiled by Bureau of Animal Industry

² Supplement to United States Department of Agriculture Bulletin 769.

3 Estimated.

It is apparent from Table 7 that lard occupies the most important place among the fats.

Table 8 gives the amount of vegetable oils consumed by the lard-substitute industry. The figures include the imported oils.

Table 8—Vegetable oils used in the manufacture of lard substitutes.
[Thousand pounds, 1. e, 000 omitted.]

Year.	Cottonseed oil.	Corn oil.	Vegetable oil stearin.	Miscella- neous	Total.
1912. 1914. 1916. 1917.	\$66, 696 1, 033, 142 919, 447 1, 069, 214 1, 015, 051	None. None. 13, 105 4, 166 2, 188	180 611 4,007 17,140 19,904	8, 105 9, 193 45, 537 64, 847 104, 187	874, 981 1, 042, 946 982, 096 1, 155, 367 1, 141, 330

¹ No data available after 1918.

272 Yearbook of the Department of Agriculture, 1922.

The miscellaneous oils given in Table 8 are chiefly those of peanut and soy bean, although, beginning with 1917 coconut oil was also used in making lard substitutes as seen in Table 9, which shows the portion of imported oils used in the manufacture of these products.

Tagle 9.—Imported regetable oils used in manufacture of laid substitutes.

	1	1
ut Peanut oil	Soy-bean oil	Total
one. 2,144 one 17,869 545 12,209	14, 247 34, 351	1, 687 3, 729 32, 116 52, 105 97, 837
	one. 1,687 one. 2,144 one 17,869 1,545 12,209	one. 1,687 None. one. 2,144 1,585 one 17,869 14,247 ,545 12,209 34,351

[Thousand pounds, 1 e., 000 omitted]

Statistics later than 1918 on the imported vegetable oils entering into the manufacture of lard substitutes are not available. It may be remarked, however, a heavy decline took place in 1921 as the total importation of peanut oil had fallen to 3.021.000 pounds and of soy-bean oil to 17,283,000 pounds, and only a portion of these imports entered into lard substitutes because both of these oils were utilized in large amounts for other manufactures. The total quantity of vegetable oils imported in 1921 constituted only about 1 per cent of the consumption of fats and oils in the United States.

Table 10.—Exports of some edible oil products.

[From Bureau of Foreign and Domestic Commerce, Department of Commerce.]

Year.	Cottonseed oil.	Vegetable stearm.	Lard com- pounds.	Lard	Neutrai laid ¹
	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
1916	266, 529, 000	None.	52,843,311	427, 011, 338	34, 426, 590
1917	158, 911, 767	1, 321, 773	56, 359, 393	444, 769, 540	7,576,240
1918	100, 779, 981	1, 226, 127	31, 278, 382	392, 506, 355	4, 258, 529
1919	178, 709, 033	782, 467	128, 157, 327	724, 771, 383	17, 395, 888
1920	159, 400, 618	5, 138, 225	44, 195, 842	587, 224, 549	23, 202, 027
1921	252, 591, 916	Not reported.	Not reported.	868, 932, 856	23, 950, 789

¹ Neutral lard is made from the first grades of leaf fat by cooking in much the same manner as the kettle-rendered lard, with the exception that it is heated at a lower temperature, so that the finished product retains practically no hog flavor. It is used almost exclusively in the manufacture of oleomargarin.

Table 10 shows the business of exporting lard is, with few exceptions, increasing from year to year. It appears that the larger the quantity of lard substitutes made, the greater is the quantity of lard available for export.

International Trade in Pork and Pork Products.

Among the countries of the world, the United States is the greatest exporter of pork and pork products. Although China produces a great number of hogs, the population is so large that it consumes nearly the entire production. (Fig. 1.) The most important competitor of the United States is Denmark. Denmark, the Netherlands, and Sweden produce a surplus of pork of good quality and have marketnear at hand. Canada is also a competitor in an advantageous position. Australia exports a small amount, mostly to near-by markets. Argentina and Brazil are new competitors in our export markets. Before the World War Brazil exported no pork and Argentina but a very small quantity. These two countries are more distant from markets but may prove to be strong competitors in the European trade.

The pork-importing countries have large industrial populations. The United Kingdom imports more than half of the pork and pork products her people consume. Germany is both a large producer and consumer of pork and lard, a part of which she buys abroad. In 1921 the United States shipped more lard to Germany than to any other country. Cuba and Mexico are regular customers that also take large quantities of lard. Cuba is an important market for pork in all forms. The United Kingdom is the principal foreign market for our bacon, hams, and shoulders. (Fig. 54.)

The Trend of Exports.

From the beginning of national existence the United States has had a surplus of pork for export. In 1790, the first year for which statistics are available, the export was not large, but in relation to the population and to the trade of that day it was important. In a review of exports from 1790 to 1922 alternating periods of expansion and depression may be noted. (See Fig. 55.) Periods of expansion occurred in 1794–1804, 1819–1833, 1840–1849, 1854–1864, 1870–1884, 1890–

² Exports of pork and pork products are also discussed on pages -

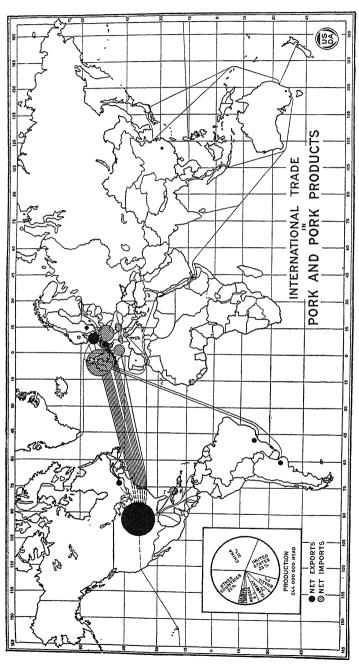


Fig. 54.-The United States is the great surplus pork-producing country of the world and industrial Europe is the great market for the surplus pork. In the bacon market Denmark and Sweden are important competitors. Argentina and Brazil are new competitors. China and Δustralia export small amounts to their oriental neighbors.

1899, and 1915-1919. After each period of expansion there has been a period of depression, more or less marked.

The reasons for these periods of expansion and depression in exports are to be found in cycles of production, rate of development of hog-producing areas, growth of population, and varying foreign demands. The Napoleonic Wars gave some stimulus to exports. This was followed by a period in which war upon the seas disturbed and discouraged the foreign trade of the United States. The export trade began to recover soon after the close of the Napoleonic wars, but did not develop very rapidly until after 1840. The period from 1840 to 1899 was one of very rapid expansion in agriculture in this country and of manufacturing in western Europe. It may be noted that, with the exception of three short periods of depression, this was a long period of rapid growth in the export surplus of pork and pork products.

The longest and most marked period of depression was 1900-1914. In this long pre-war period home consumption was rapidly gaining on production and it seemed likely that in a few years the exportable surplus would disappear.

The World War greatly increased the demand in Europe for pork and pork products and higher prices induced a large increase in the exports, thus demonstrating the extraordinary elasticity of the producing power of the United States. It remains to be seen whether or not the trend of exports will continue upward or will resume the downward trend as in the period 1900–1914. Recovery and further industrial expansion of Europe, without further expansion of pork production outside the United States, would strengthen the demand so much as to encourage farmers in the United States to maintain and even increase the export surplus brought out by the war. On the other hand, a slack in the demand from abroad and increasing population in this country would soon reduce the export surplus to a negligible quantity.

The Outlook.

The World War demonstrated the elasticity of hog production in the United States. The probable future development must be considered on the basis of a normal peace-time consumption of pork and pork products in the United States and the demand of our foreign markets. It is reasonable to expect that the production of hogs will recover in those

European countries where the number had been greatly reduced during the war. Additional factors influencing production of pork and pork products are the size of the feed crops and hog diseases.

Production of pork is determined, not only by the number slaughtered, but also by the weights and dressing percentages of the hogs. Since 1907 the reports of meat inspection, together with census data, have furnished a basis for more accurately estimating the annual production of pork. The trend of production since 1907 has been but slightly upward, as is shown in Table 11.

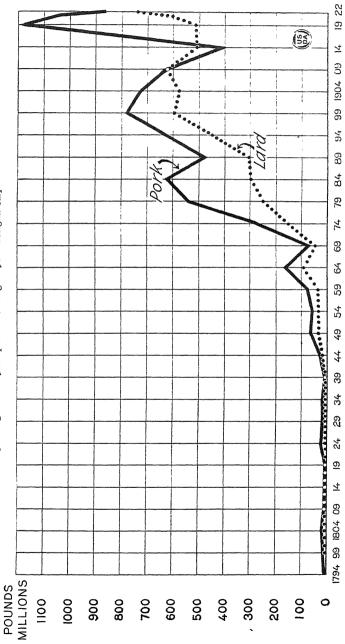
Table 11 -Estimated production of pork, lard, and edible offal.

Pounds 1900 1907 7, 491, 000 1908 8, 226, 000 1909 6, 690, 000 1911 7, 511, 000 1912 7, 189, 000 1913 7, 492, 000 1914 7, 228, 000 1915 8, 050, 000 1916 8, 634, 000 1917 6, 901, 000 1918 8, 584, 000 1919 8, 933, 000		Total, including lard and edible offal.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	s. Pounds.	Pounds.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	000 1 002 000 000	9, 286, 245, 000
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		9, 532, 453, 000
1911 7,511,000 1912 7,189,000 1913 7,492,000 1914 7,228,000 1915 8,050,000 1916 8,634,000 1917 6,901,000 1918 8,854,000		9, 332, 433, 000
1912. 7, 189, 000 1913. 7, 492, 000 1914. 7, 228, 000 1915. 8, 050, 000 1916. 8, 634, 000 1917. 6, 901, 000 1918. 8, 854, 000		
1913. 7,492,000 1914. 7,228,000 1915. 8,050,000 1916. 8,634,000 1917. 6,901,000 1918. 8,854,000		
1914. 7, 228, 000 1915. 8, 050, 000 1916. 8, 634, 000 1917. 6, 901, 000 1918. 8, 854, 000		
1915. 8,050,000 1916. 8,634,000 1917. 6,901,000 1918. 8,854,000		
1916. 8,634,000 1917. 6,901,000 1918. 8,854,000		
1917		12, 268, 010, 000
1918 8, 854, 000		9,805,989,000
' '		12,571,909,000
	, , , , , , , , , , , , , , , , , , , ,	12,748,350,000
1920	.000 2.089.000.000	11,814,791,000
1921	, , , , , , , , , , , , , , , , , , , ,	

Relation of Production to Population.

The number of hogs and human population, 1840 to 1860, shows that the increase in the number of hogs during this period was not in proportion to the increase in population. The Civil War caused a great reduction in the number of hogs, but by 1871 hog production had recovered from the effects of that war. From 1871 to 1882 production increased greatly. Since 1882 hogs have not increased with the growth in the population of the country. In 1882 there were 120 hogs per 100 people, there are now only about 50 hogs to 100 people. A large export surplus existed for many years, but previous to the World War it was dimin-

EALUKIN OF LAKD AND FOKK, 1784-1988. [Average of five-year periods ending 'n year designated.]



Fra. 55.—The United States has always been an exporter of pork and lard. Since 1809 the exports have increased enormously. Average annual exports of pork for the five years ending in 1869 were 70,905,000 pounds, compared with exports during the peak period from 1915 to 1919 of 1,179,287,000 pounds annually. From 1909 to 1914 the average annual exports of lard exceeded those of port.

ishing. The war stimulated a great increase in exports, partly at the cost of a reduction in the per capita consumption in this country. If the present tendency of our population to increase more rapidly than hog production continues, the exportable surplus will again diminish.

It is probable also that the domestic demand will not increase in the same ratio as population. Since the limits of the Corn Belt have been reached the number of hogs in the United States has fluctuated from year to year but has not shown a tendency to increase to any considerable extent.

POPULATION AND NUMBER OF HOGS, UNITED STATES, 1840-1922.

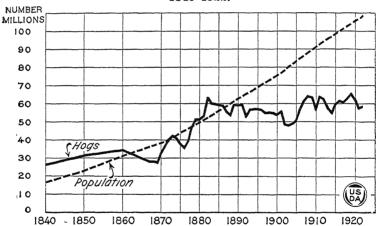


Fig. 56.—Whereas population has continued to increase, the number of hogs in the country has remained in the neighborhood of 60,000,000 since 1883. From 1840 until 1890 there was approximately one hog per person in the United States, whereas now there is little more than half a hog per person.

However, there are many possibilities for further expansion outside the Corn Belt. The South can produce corn and hogs and with a better system of cotton growing there will be an increased acreage of feeds used in the production of hogs, and in consequence the hog business will probably expand in that section. Hog production in Michigan, Wisconsin, and Minnesota may expand with the further development of corn production as a result of improvement in varieties to meet climatic conditions in those States. There may also be increased production in the territory west of these States, due to probable increased production and utilization of feeds necessary in the growing of hogs.

Any expansion of hog production into areas outside those now furnishing the bulk of our supply will depend upon the ability of these outlying areas to compete with the hog producer of the Corn Belt.

Foreign Competition and Demand.

Uncertain factors affecting our exports of pork and pork products are the future development of the hog industry in South America and the future demands of European importers. Will the industrial population of western Europe continue to increase indefinitely? If the growth of industrial population is retarded, hog production in Europe may develop to the point of more nearly supplying Europe's needs.

Until the industries of the European nations have more fully resumed peace-time conditions and until the monetary situation has been materially strengthened, it is probable that there will be an unstable demand for the products of the American hog from the markets of Europe.

The hog industry of the United States as now established is a reasonably safe and a profitable one. Nevertheless, the number of hogs is susceptible to greater fluctuations than is the case with other classes of live stock, one of the drawbacks of the industry being the tendency to expand or contract production with changes in price or quantity of the feeds available.

Hog growers should follow sound business methods and study foreign and domestic demands for pork and pork products and regulate production accordingly. When this is done violent fluctuations in prices for live hogs will be materially lessened. The plan of breeding an increased number of sows when feed prices are low and failing to breed the usual number when feed prices are high frequently results in disturbing the market equilibrium. A normal production each year will enable the competent hog grower to realize fair average profits and tend to stabilize the hog industry.

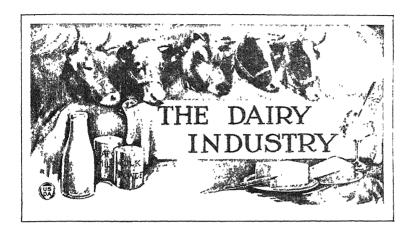
Tariff Duties on Swine, Pork, and Pork Products.

A summary of the tariff acts since 1789 with reference to import duties on swine, pork, and pork products follows:

280 Yearbook of the Department of Agriculture, 1922.

Table 12.—Rates of duty on imports of hogs and hog products under the Constitution.

Date of act (and date when effective)	Rates
July 4, 1789 (Aug. 1, 1789)	5 per cent
Aug. 10, 1790 (Jan. 1, 1791) May 2, 1792 (July 1, 1792)	5 per cent. $7\frac{1}{2}$ per cent, of which $2\frac{1}{2}$ per cent temporary.
Feb. 27, 1793)	Swine for breeding, free 10 per cent, of which 5 per cent temporary. 12½ per cent, of which 7½ per cent temporary.
Mar 26, 1804 (July 1, 1804)	15 per cent, of which 10 per cent temporary. Existing permanent rates doubled until 1 year after the war.
Apr. 27, 1816 (July 1, 1816)	Free. Hams and bacon, lard, 3 cents per pound; pork, 2 cents per pound.
July 14, 1832. (Mar. 4, 1833).	Free. Existing rates remain.
Sept 11, 1841 (Oct. 1, 1841) Aug. 30, 1842 (Aug. 31, 1842)	Hams and bacon, 3 cents per pound; prepared meals 25
July 30, 1846 (Dec. 2, 1846)	per cent; other, 20 per cent. Pork, 2 cents per pound. Hams and bacon, pork, lard, other, 20 per cent. Meats, 30 per cent, hams and bacon, pork, lard, other, 15 per cent
Mar. 2, 1861 (Apr. 2, 1861)	
May 16, 1866 (May 16, 1866) July 14, 1870 (Jan. 1, 1871)	Swine, 20 per cent.
Mar. 3, 1883 (July 1, 1883)	Swine for breeding, free; other swine, 20 per cent; hains
Oct. 1, 1890 (Oct. 6, 1890)	hams and bacon, 5 cents per pound; lard, 2 cents per pound; pork, 2 cents per pound; other, unmanufac-
Aug. 27, 1894 (Aug. 1, 1894)	tured, 10 per cent; manufactured, 20 per cent Swine for breeding, free, other swine, 20 per cent, lard, 1 cent per pound, pork, fresh, 20 per cent; prepared or preserved, 20 per cent.
July 24, 1897 (July 24, 1897)	Swine, registered pure breds, free; other swine, \$1.50 per head; hams and bacon, 5 cents per pound; lard, 2 cents per pound; pork, fresh, 2 cents per pound; prepared
Aug 5, 1909 (Aug. 6, 1909)	per head; hams and bacons, 4 cents per pound; lard, 1½ cents per pound; pork, fresh, 1½ cents per pound;
Oct. 3, 1913 (Oct. 4, 1913)	substitutes, pork, fresh, prepared or preserved free
May 27, 1921 (May 28, 1921)	Swine for breeding, free; pork, fresh or frozen, 2 cents per pound: meats of all kinds, prepared or preserved, 25 per cent; other rates remain as before.
Sept. 21, 1922 (Sept. 22, 1922)	So per cent; other rates remain as before. Swine, registered pure breds for breeding, free; other swine, teat per pound; fresh pork, teat per pound; hams, bacon, and shoulders and other prepared or preserved pork, 2 cents per pound; lard, 1 cent per pound; lard compounds and substitutes, teats per pound; other pork products, prepared or preserved, 20 per cent. All rates subject to change by the President after investigation of cost of production, domestic and foreign.



By C. W. Larson. Chief. Dairy Division, Burcau of Animal Industry; L. M. Davis, Assistant in Marketing; C. A. Juve, Chief Accountant; O. C. Stine, Agricultural Economist, Bureau of Agricultural Economics; A. E. Wight, Assistant Chief, Tuberculosis Eradication Division; A. J. Pistor, In Charge of Eastern Division, Meat Inspection Division, Bureau of Animal Industry; and C. F. Langworthy, Chief, Office of Home Economics, States Relations Service.

The Importance of Dairying.

A N adequate supply of milk is of vital importance to every consumer. From the time the first cows were brought to this country by the early settlers there has been a steady, and at times a rapid, increase in the development of the dairy business, until now there are more than 30,000,000 dairy cattle in the United States. These animals are cared for on about 4,500,000 farms, or approximately 70 per cent of all the farms in this country. Our dairy cows are producing vital food products which form a large and important part of the diet of our entire population and for which consumers pay more than \$3,000,000,000 a year, or about \$30 per person.

There are several reasons why dairying has become so important in this country:

(1) The dairy cow economically converts pasture grasses, dry and succulent roughage, and the by-products of many different kinds of grain into milk, that most excellent food for man. The dairy cow does well when a large proportion

of her ration comes from these products. Only through the agency of animals can roughage be converted into human food. The great purpose of agricultural production is an adequate food supply. For feed eaten the dairy cow returns more than three times as much digestible protein as the steer and more than twice as much energy in edible products.

FARM VALUES OF DAIRY PRODUCTS AND OF IMPORTANT CROPS, 1921.

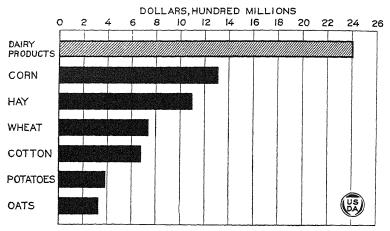


Fig. 1.—The leading crop in 1921 was the corn crop which had a farm value of \$1,302,670,000. The farm value of dairy products for the same year is estimated at \$2,410,000,000. The dairy products represented 45 1 per cent of the total value of all animal products.

- (2) As our western ranches were divided into farms, it became necessary to cultivate the land more thoroughly and to practice more intensive agriculture. With this change came a need for live-stock that could be maintained under this system. The dairy cow found a place in this shift of agriculture and live-stock production from the range to the more intensive system, largely because she produced more human food per acre.
- (3) In order to maintain soil fertility, it is necessary to keep live stock on a large proportion of our farms. The constant growing of grains and other crops depletes the fertility of the soil. The amount of fertilizer ingredients sold off the farm in dairy products is so slight that the amount

brought to the farm in the form of purchased concentrate feeds often more than compensates for the loss. The yields of crops on farms where dairy cattle form an important part of the farming enterprise have been maintained and frequently increased.

(4) Dairying can not be expanded rapidly. Only a slow growth is possible. Favorable years have not stimulated

THE FARM ANIMALS. NUMBER AND VALUE. UNITED STATES, JANUARY 1, 1920.

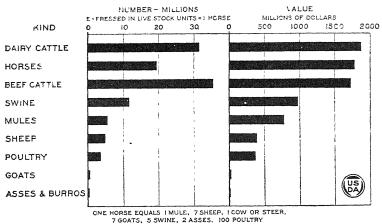


Fig. 2.—Dairy cattle in 1920 led in value all classes of livestock in the United States. There were, however, 35,288,100 beef cattle as compared with 31,364,459 dairy cattle. In the previous censuses cattle were divided into two classes. Milk cows and other cattle, the latter including beef cattle of all ages, dairy young stock up to 2 years of age, and also the dairy bulls. The census of 1910 showed 20,625,000 milk cows and 41,178,000 other cattle. In this same classification there were on January 1, 1920, 23,722,000 milk cows and 43,398,000 other cattle.

production to a point where overproduction seriously retards future progress. Many persons have been encouraged because the enterprise was stable and the income regular. An increased number of calves raised in any particular year due to favorable conditions will two or three years later have a tendency to increase materially the number of cows available for milk production, but the stimulation is always foreseen. It is not possible, therefore, to have very great fluctuations in the number of dairy animals. Production may, however, be influenced materially by feeding. When prices of dairy products are relatively high, it is advantageous to feed more heavily.

- (5) The keeping of a few dairy cows on general farms has made it possible to utilize labor to advantage and to furnish a cash income as a side line. It also gives an income throughout the year.
- (6) The price of dairy products is unusually uniform from year to year as compared with the prices of other farm products. While this limits great profits at times, it also largely eliminates great losses. Dairying, therefore, is a stable type of production.
- (7) Dairy cattle which, for one reason or another are no longer desired for milk production, can be slaughtered for meat. These cattle, together with the veal calves from our dairy herds, furnish more than one-fourth of the beef and veal supply.
- (8) The opportunities for increasing the capital stock and additional income through the sale of pure-bred dairy cattle, especially when animals of unusual production are bred, have offered a further stimulus to the development of the industry.

Dairy production is therefore important because of its favorable relation to the production of crops, the maintenance of soil fertility, and the seasonal distribution of labor; because of its large total income from the sale of products; because of its stabilizing effect on agriculture in general; because of the large part of our meat that is supplied as a by-product of dairying; and because milk and its products are so important in the proper nourishment of our people.

Dairy Products in the Diet.

Fifty years ago the keeping of cows in small towns and even in large cities was common, but as the towns built up and cows were crowded out, the delivery of milk to urban customers from the surrounding country became an established practice. The fact that milk was so generally consumed where it was produced meant that milk and its products, especially cream and butter, were used in such abundance in some localities as would seem extravagant to the average housekeeper to-day. In other regions, particularly in the Southern States, the consumption of milk was then probably much less than now. No statistics are available as to the average amount of milk consumed per capita in

the United States as a whole at that period, but it is probable that the amount is greater now than it was then. The use made of the milk has changed with changing conditions, of which the most important is the transportation of milk and other products from place of production to a distant place of use.

For recent years data of milk consumption are more abundant. During the year 1918 dietary studies were made by the Department of Agriculture in all parts of the United States among families considered representative of different types of communities, racial stocks, incomes, and occupations. Five hundred of these studies have been carefully analyzed. They show that, of the total amount of

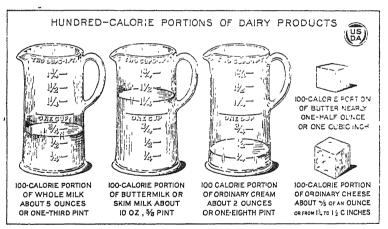


Fig. 3.—Quick methods of calculating the value of foods are useful. One of these depends upon the 100-calorie portion as a unit This is satisfactory so long as it is understood that the diet must include enough kinds of food to provide all the necessary ingledients. The accompanying chart shows 100-calone portions of milk and some of its products. In making use of this unit one must remember that the average adult usually needs about 2,700 calones of food daily. All 100-calorie portions, as the name implies, are equal in fuel value. But some 100-calorie portions furnish protein more abundantly, some vitamins, some mineral substances, and some other important food constituents. All these must be considered in determining their relative values. The quantity of vitamin A can not be shown because no one yet knows how to measure it, except relatively, but one can always reckon that milk fat is rich in it. The chart shows also the weight of each 100-calorie portion. With this fact in mind it is easy for the housekeeper to estimate how much she is paying per 100-calorie portion for the various dairy products and also what other necessary tood constituents she is getting in return for her money.

money paid for food, a little more than one-fifth—or to be exact. 20.7 per cent—was spent for dairy products. Of this nearly one-third was spent for butter and the remainder principally for milk. with a little for cream and cheese.

The question naturally arises, what actual nourishment did these families receive in exchange for the money so spent? Did they get one-fifth of all the substances needed for the nourishment of their bodies, and one-fifth of the energy needed for their work? It is impossible, of course, to answer these questions definitely, for human bodies need a great variety of substances, some of which—the vitamines—can not be accurately measured. The diet of most people is made up of a number of food materials, and some of the necessary nutrients are supplied by one and some by another. No one food or group of foods should be thought of entirely apart from the others with which it is associated in the diet. It is, however, wise to try to determine what return each food makes for the money spent.

One of the constant needs of the human body is fuel. There are cheap body fuels and costly body fuels. Did the 500 families who spent one-fifth of their food money for milk and other dairy products get one-fifth of the needed fuel or energy in return? The records show that they got not only one-fifth, but almost as much again, or about 38 per cent. Considered then as a source of fuel or energy, dairy products as a group are economical foods.

The human machine has many other needs than that for fuel. It must be supplied with protein in order to form the protein of its tissues and to keep this protein in good condition. The dietary studies to which reference has been made show that 17.7 per cent of the protein consumed by the families studied was obtained from milk. This is more significant than it appears to be at first sight, for the protein of milk, like that of other animal foods, is believed to be more economically used by the body than the protein of vegetable foods, so that 17.7 per cent of the total protein represents more than this percentage of the protein that is available for tissue making.

Dairy products, particularly milk, are also depended on for a very large percentage of the lime needed in the diet of people of all ages, especially children. The dairy products which are rich in fat are also rich in vitamin A, without which children fail of satisfactory general development. Without milk the diet is not necessarily wholly lacking in this important vitamin, for it is found also in egg yolks and green-leaf vegetables, as well as in some other foods; but when milk, butter, and cream are regularly used no more thought need be given by the mother to this important factor in the diet.

Consumption of Dairy Products.

The records show a noticeable increase in consumption of dairy products in both rural and urban districts, due in part

YEARLY PER CAPITA CONSUMPTION OF WHOLE MILK.

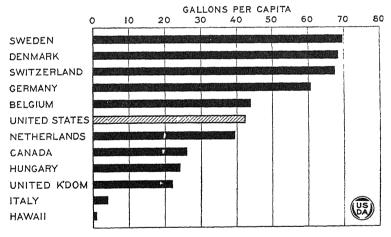


Fig. 4.—The per capita consumption data upon which the above chart is based are those nearest to 1914 that are available. They are not all for the same year. The per capita consumption of milk has increased in the United States from 42 gallons in 1914 to 49 gallons in 1921. The average consumption of milk and cream in cities in the United States was obtained from reports from 300 cities with a total population of 33,676,563, nearly one-third of the population of the United States. On the basis of this survey, the average quantity of whole milk consumed per person in the cities was estimated at 0.668 of a pint daily, and, in addition, the consumption of cream accounted for the utilization of 0.167 of a pint of milk, making a total equivalent to 0.835 of a pint of whole milk. Combining the rural and urban consumption, the average per capita consumption of whole milk as milk and cream for household purposes was 1.08 pints daily. This is equal to 49 gallons of milk annually, which is the largest annual per capita consumption on record in this country

to the better quality of products now delivered to the consumer and also because of the increased knowledge on the part of the consuming public of the value of dairy products as food. Before methods of handling milk had been so well worked out, it was not possible to deliver to the city consumer a uniform product of high quality. This is now possible, and in many cities the consumption of milk per capita is greater than in some rural districts.

During the last three or four years educational campaigns have been conducted in many cities to increase the consumption of milk. Health officials, schools, and various agencies have assisted in these campaigns because of the belief that it was to the advantage of the people that a larger quantity be consumed. Surveys showed that in many districts the amount of milk consumed was inadequate, and as a result of this educational work the consumption in several large cities

YEARLY PER CAPITA CONSUMPTION OF BUTTER.

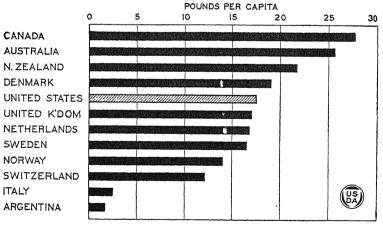


Fig. 5.—The per capita consumption data upon which the above chart is based are those nearest to 1914 that are available; they are not all for the same year. Several of the Nations that consumed more milk per capita consumed less butter than the United States. In 1921 the quantity of creamery butter manufactured in the United States was 1,054,938,000 pounds, an increase over 1920 of 191,360,000 pounds. The total production of farm and factory butter, exclusive of whey butter, for the year 1921, is estimated to have amounted to 1,705,438,000 pounds, or an average per capita consumption of 16.1 pounds.

has been increased as much as 10 to 20 per cent, and the increases maintained. The average consumption of milk in the cities of this country is a little less than a pint a day for each person.

Similar campaigns are being conducted in rural districts, and it is probable that during the coming years the consumption of milk will be materially increased throughout the country.

The daily consumption of milk in the household does not vary so much as the consumption of many other products. It is usual for a family to take a pint, a quart, or whatever quantity is customarily used, and this amount, or approximately this amount, is purchased regularly. The amount consumed, therefore, is affected only to a slight degree by fluctuations in price. This is not true of butter and some of the other products of milk. The average consumption of milk in the United States last year was estimated at about 49 gallons per capita.

At the present time the quantity of butter consumed in this country is also increasing. For the year 1921 the consump-

YEARLY PER CAPITA CONSUMPTION OF CHEESE.

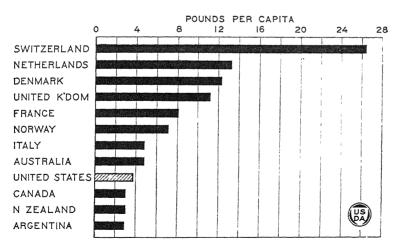


Fig. 6.—The per capita consumption data upon which the above chart is based are those nearest to 1914 that are available; they are not all for the same year. The people of the United States are not large consumers of cheese. Many Nations consume more, some twice or three times as much. The Swiss consume nearly seven times as much cheese per capita as the people of the United States.

tion was 16.1 pounds per capita, which was a 10 per cent increase in consumption over the previous year.

Although the American people are large eaters of butter, compared with European peoples, they consume a relatively

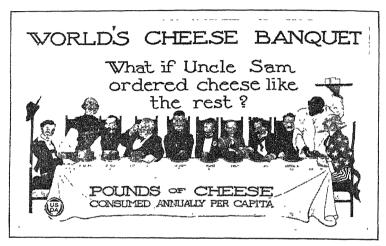


Fig 7.—If Uncle Sam ordered as much cheese as the Dane, the Englishman, the Hollander, German, or Frenchman, or one-half as much as the Swiss, it would create a market for 9,000,000,000 more pounds of milk than at present.

small amount of cheese. The consumption of cheese is approximately 3.8 pounds per person, while in some European countries the consumption is four or five times this amount. Cheese of the American Cheddar type is chiefly manufactured in this country, but there is a demand for cheese of foreign varieties, especially by persons who have come from other countries. In the years preceding the war more than 60,000,000 pounds of cheese, or approximately one-fifth as much as was produced of all varieties in this country, was imported annually.

Increasing the consumption of cheese offers large opportunities for development of the dairy industry. If the people of this country would consume as much cheese per capita as the Dane, the Englishman, the Hollander, the German, or the Frenchman, or half as much as the Swiss, it would create a market for 9,000,000,000 pounds of milk more than is required at the present time.

The development of the canned-milk industry, which includes evaporated and condensed milk, has been rapid during the last 10 years, as much milk being required for these products now as for cheese. The foreign demand during the war increased greatly; and although the export demand for canned milk has greatly decreased, consumption in this country is growing, and new uses are constantly being found for condensed and evaporated milk in various other foods. The average annual consumption of this product at the present time is a little more than 10 pounds per capita.

The manufacture of ice cream has also become important in recent years. It is estimated that at least $2\frac{1}{4}$ gallons per capita are now consumed in the United States each year.

Milk powder and other products are finding new uses and are becoming increasingly important in the diet of American people.

How Milk Is Utilized.

The estimated production of milk in the United States in 1921 was approximately 99,000,000,000 pounds. On the

USES OF MILK, 1921.

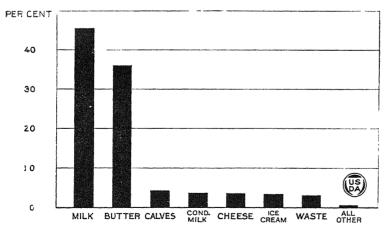


Fig. 8.—It is estimated that 98,862,276,000 pounds of milk were produced in 1921 and that 45.66 per cent was used for household purposes, chiefly for direct consumption as milk; 47.03 per cent was used in the manufacture of products, 431 per cent was fed to calves and the balance of 3 per cent was either lost, wasted, or included in unspecified uses. In the manufactured products, 36,21 per cent was used for the manufacture of butter, 3.7 per cent for condensed and evaporated milk, 3.59 per cent for cheese, and 3.39 per cent for ice cream.

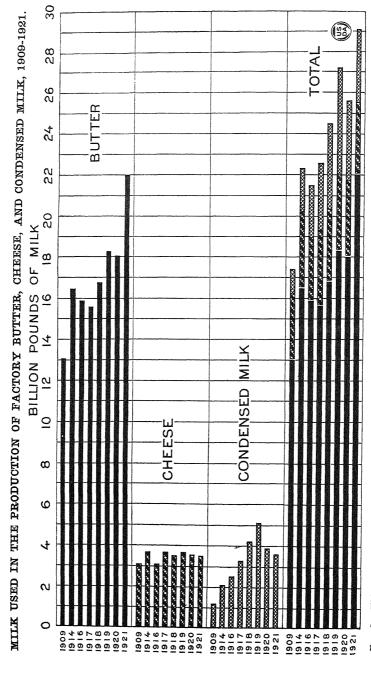


Fig. 9.—This graph shows the quantity of milk required for the production of three dairy products. It was calculated on a basis of 21 pounds of milk per pound of butter made, 10 pounds of milk per pound of cheese, and 24 pounds of milk per pound of condensed milk. The latter includes evaporated milk. The rapid expansion of condensed milk manufacture was stimulated by the demand for this product during the war.

TABLE 1.—Production and uses of milk in the United States, 1920 and 1921.

	- Contract of the last of the		The second secon				
	Milk		1920			1921	
Product.	used per umt of product	Quantity of product manu- factured.	Whole milk used	Per cent of total milk	Quantity of product manu- factured.	Whole milk used.	Per cent of total milk.
Milk for manufacturing	Pounds.	Pounds.	Pounds	Per cent.	Pounds.	Pounds	Per cent.
Creamery butter	21	863, 577, 000	18, 135, 117, 000	20, 226	1,054,938,000	22, 153, 698, 000	22,408
Farm butler	21	675, 000, 000	14, 175, 000, 000	15,810	620,000,000	13, 650, 000, 000	13,807
Cheese (all kinds)	10	362, 431, 000	3, 624, 310, 000	4,042	3 355, 83k, 000	3, 558, 380, 000	3, 599
Condensed and evaporated milk	2.5	1, 578, 015, 000	3, 945, 038, 000	4.400	1, 464, 163, 000	3,660, 108,000	3, 70,
Powdered milk	∞	10, 334, 000	82,672,000	.092	4, 213, 000	33, 944, 000	£80°.
Powdered cream	19	309,000	5,871,000	.007	130,000	2,470,000	. 002
Malted milk.	2.2	19,715,000	43, 373, 000	.048	15,652,000	34, 431, 000	. 035
Sterilized milk (canned)	-	5,623,000	5, 623, 000	900.	5,074,000	5,074,000	. 005
Milk chocolate			3 60,000,000	.067	:	J 40,000,000	041
Oleomargarin	.065	370, 163, 000	24, 256, 000	.027	211, 867, 000	€	
Ice cream.	6 13, 75	6 260, 000, 000	3,575,000,000	3,957	6 244, 000, 000	3, 355, 000, 000	3 396
Total milk used in manufacturing			43, 676, 260, 000	48.712		46, 493, 405, 000	47.030
Milk for household purposes	:	7 43	39, 030, 000, 000	43, 599	7 49	45, 113, 000) (00)	45 560
Milk fed to calves.	:	8 200	1, 202, 000, 000	4 687	8 200	4, 250, 000, 000	4 310
Waste, loss, and unspecified uses			2,659,000,000	3 000		2, 965, 465, 000	3 000
Grand total			89, 657, 260, 000	19 99A		198, 42, 256, 000	1(0), 0(0)
1 Figures for manufactured products for both years are from reports to the	ie from re		6 (Aallons	6			, •

1 Figures for manufactuned products for both years are from reports to the U.S. Bureau of Markets and Corp Estimates, other figures based on surveys.

2 Includes 6,000,000 pounds of farm-made cheese.

4 A large quantity of milk chocolate was made from powdered, condensed, and evaporated milk.

4 Orntfed in 1921 because of negligible amount of whole milk used

5 Estich-made ice cream averages 6 pounds, per gallon, and continuous machinemade weights 5 pounds, per gallon; average amount of milk to make 1 gallon of ice cream taken at 13.75 pounds.

i dailor, per capita, Population e-timated on basis of the last census at 104,708,770 in 1220, and 107,125,720 in in 1220, and 107,125,720 in in 1220, and 107,125,720 in in in 107,125,720 in 1220, and 107,125,720 in 1220, and 107,125,720 in 1220, and 107,125,720 in 1220, and 107,125,720 in 107,125,720 in

basis of 25,000,000 dairy cows, the average production per cow, therefore, was about 4,000 pounds. With our present population, there is available about 920 pounds of milk for each person, either in the form of milk or some of the various products of milk.

Forty-five and six-tenths per cent of the total milk is used for household purposes. This includes the milk for direct consumption, both in the city and in the country. and milk used for cooking purposes. The next largest quantity is that used for making butter, approximately 36 per cent being used for this product: 22 per cent for creamery butter, and 14 per cent for farm butter. The manufacture of cheese, condensed milk, and ice cream, and the feeding of calves each require about 4 per cent of the total milk produced. The remaining 3.4 per cent is used for various products such as milk powder, malted milk, and others less important, and includes milk lost in the process of manufacture or otherwise wasted. In the manufacture of butter only the butter fat is utilized, and there remain as by-products skim milk and buttermilk, which are not utilized to the fullest advantage.

With milk for direct consumption and for the manufacture of condensed and evaporated milk, the whole milk is used and there is no waste. On the other hand, when milk is used for buttermaking, only about one-third of the milk constituents other than water is utilized, leaving two-thirds to be utilized in other ways. In cheesemaking, some of the fat, nearly all of the sugar, and an appreciable portion of the protein remain in the whey and are used inefficiently as a feed or are wasted entirely. Skim milk, buttermilk, and whey are not wasted when they are fed to animals, but since 100 pounds of skim milk, containing about 9 pounds of solids, of which 3 pounds are protein, are required to make about 4.8 pounds of dressed pork, it can not be considered an efficient method of utilization. At the present time, however, only a small part of our butter is made in creameries which utilize all the milk ingredients. The effect of a system by which skim milk and buttermilk could be converted profitably into marketable products would be farreaching. As dairying develops and uses are found for the skim milk and buttermilk, the business of dairying will improve. A most marked effect of bringing the whole milk to the creamery would come from the improvement in the quality of the products.

There is some fluctuation from year to year, and from season to season, in the relative amounts of milk used for these various purposes depending upon the relative prices of the products and the demand. When, for instance, the price of condensed milk falls to a certain point, there is a tendency to divert the milk from that product to butter or cheese, depending upon the relative prices for these products, and facilities for manufacturing them.

Geography of Production of Dairy Products.

In the main, the production of dairy products follows very closely the cow population: but the particular product sold or manufactured is dependent upon a number of geographical, climatic, and economic factors. Cows are kept more generally in those sections where hay is grown extensively, where grains are relatively cheap, or where climatic conditions favor the maintenance of green pastures.

The Northeastern States, because of favorable conditions, are an important hay-producing region. Furthermore, a relatively large summer rainfall encourages abundant pasturage, thus providing cheap feed and minimizing summer work. As a result, large numbers of cows are kept in that section.

In the Central West, where grain is grown extensively, and prices are relatively cheap, dairying also flourishes. The growing and milling of grains is the source of a large number of farm roughages and mill by-products for which the dairy cow provides a ready and profitable market.

Other factors, such as proximity to large groups of consumers, high prices for dairy products, and favorable weather conditions also serve to foster dairying.

Market milk is the largest item in the grand total of milk produced in the United States. At the present time nearly the whole of New England, a large part of southern New York, and eastern Pennsylvania have developed their dairy industries principally along the line of producing milk for the large eastern cities. The area of butter and cheese pro-

duction has been pushed back year after year by the higher price paid for market milk, until now milk is shipped into New York City from the farthest parts of the State.

This same condition prevails in the North Central States near the large cities. Northern Ohio, Indiana, Illinois, and southern Michigan, Wisconsin, and Minnesota sell large quantities of whole milk for household consumption in cities having inadequate local supplies.

What is true of the large populous centers is true also of the smaller cities. Milk for domestic consumption commands a higher price and takes precedence over all other dairy products.

Butter being a less perishable product than whole milk is produced beyond the areas affected by the market-milk competition and principally in the regions where feed is cheapest. The improved refrigerator-car service has permitted the establishment of butter factories throughout the North Central States, in the Mississippi Valley, and even on the western coast. In the Middle West the trend has been toward centralizer creameries which collect cream and make butter in large plants located at selected transportation centers.

Farm butter, which amounts to about 40 per cent of the total butter production of the United States, is still made on about half the farms of the country.

Cheese.—Farm-made cheese is now produced only in a few of the Northern and Eastern States, the total quantity, about 6,000,000 pounds, being only about 2 per cent of the cheese produced in the United States.

Cheese is easily transported, keeps well at ordinary temperatures, and can be made economically in small factories. Cheese factories therefore can be operated in regions where the creamery would not be practicable.

It is noticeable that the cheese factories are located in the northern section of the country where there are cool nights and an abundance of cold water. It is true that cheesemaking has been carried on very successfully in high altitudes in the far Western States and in the mountains of North Carolina, Virginia, and Tennessee. Practically two-thirds of the cheese is made in Wisconsin.

Condensed and evaporated milk.—Milk condenseries are located in 31 States and the production for the year 1921 indicates the following in rank as producers: Wisconsin, New York, Michigan, Pennsylvania, Illinois, Washington, California, and Ohio. Condenseries have generally been located where dairying has been well developed and large quantities of milk are available.

Casein.—Casein is produced from skim milk and butter-milk, both of which are by-products of buttermaking; however, much casein is made from milk skimmed in the production of cream for city trade. California makes the most skim-milk casein, with New York second and Vermont third.

Ice cream.—Ice cream is made in all cities and many villages, and is shipped from the larger cities to places where the local supply is insufficient. However, much more ice cream is made in the Northern States than in the Southern. In addition large quantities are made in the home.

Milk chocolate.—Milk products are used extensively in milk chocolate and other confections. The principal States making these products are New York and Pennsylvania.

Powders.—Milk powder, cream powder, and skim-milk powder are made chiefly in New York, California, Pennsylvania, Illinois, Michigan, Washington, and Wisconsin. The greatest quantity of malted milk is made in Wisconsin. However, there are also factories in New York, Colorado, Ohio, and Illinois.

Condensed and dried buttermilk are made principally in Nebraska, California, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, and Missouri. These are States where there are large creameries.

Milk sugar is usually made from cheese and casein whey from factories located in New York, Vermont, Ohio, California, and Michigan.

Development of Dairying in the United States.

Cows were part of the necessary equipment for establishing permanent settlements in the New World. The same cows produced work stock, beef, milk, butter, and cheese for the settler and his family. As commerce and manufacturing developed villages and towns became too large to be supplied

only from the cows that could be maintained on the village common and near-by grazing grounds. Trade developed a demand for butter and cheese to provision ships, to supply

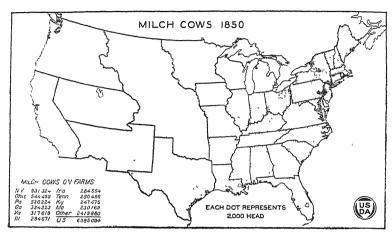


Fig 10—In 1850 cows were numerous in southern New England, Vermont, southern and central New York, in northern New Jersey, in southeastern Pennsylvania, and in northeastern Ohio. Outside of these areas they were quite evenly distributed over the settled part of the United States.

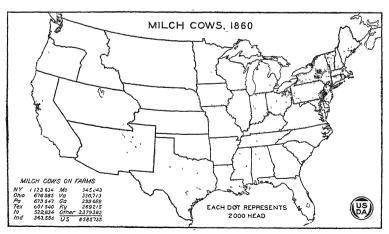


Fig. 11.—By 1860 there had been a great increase in the number of cows in the Pacific Coast States and in the Upper Mississippi Valley. The beginnings of the development of new important dairy centers may be noted in northern Illinois and southern Wisconsin. The number of cows decreased in parts of the Cotton Best. Many of the cows reported in Texas, also in some of the western States, were only breeding stock.

the West Indies and the needs of the continental colonies not producing enough for their own use.

The date when the first cattle were permanently established

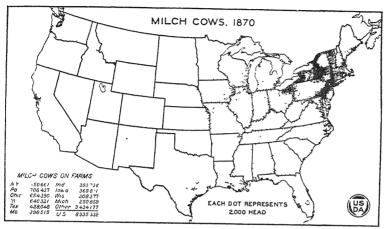


Fig. 12—There were only 350,000 more cows reported in 1870 than in 1860. The South had not recovered from the Civil War. New England also had fewer cows. Increases in other northern States had more than offset reductions in the South and in New England. The greatest gains were made in New York, Illinois, Wisconsin, Iowa, Minnesota, Kansas, and Michigan.

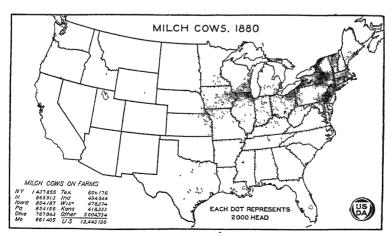


Fig. 13.—Between 1870 and 1880 the number of cows increased nearly 50 per cent. The greatest increases were in Iowa, Kansas, Illinois, Wisconsin, and Minnesota. By 1880 nearly all of the States had recovered from the Civil War depression in number of cows. The westward movement had reached the semi-arid Great Plains.

300 Yearbook of the Department of Agriculture, 1922.

in the United States is still in doubt. Cattle were landed at Vera Cruz, Mexico, in 1525, and produced what were later known as "Texas" cattle, but it is not known when they

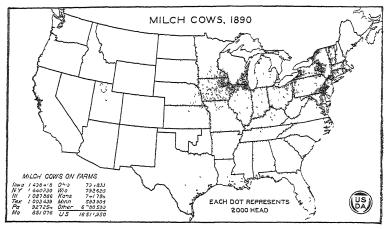


Fig. 14.—By 1890 Chicago had become the market center for the greatest dairy region of the United States. In number of cows Iowa ranked first, New York was a close second, and Illinois ranked third. Dairying had almost entirely displaced wheat growing in southern Wisconsin and northern Iowa and was beginning to take the place of wheat on farms in southeastern Minnesota.

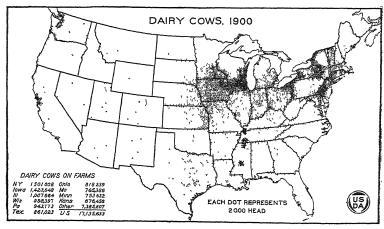


Fig. 15.—The census enumerated separately the cows kept principally for milk for the arst time in 1900. The exclusion of cows kept principally for raising calves reduced the number in some of the principal beef-producing States. The greatest increase in the decade 1890–1900 was made in Wisconsin. In some of the eastern States the number of cows had begun to decline.

reached the border of the United States. It is definitely known that cattle were landed at Jamestown, Va., in May, 1611, and that one bull and three cows were landed at Plymouth, Mass., in 1624.

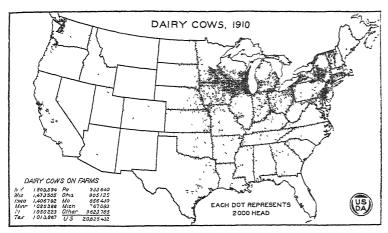


Fig. 16.—A marked increase in dairy cows may be noted in the Pacine Coast States. Wisconsin continued to increase the number of cows taking second place. Minnesota dairying was also developing rapidly. Cows were decreasing in southern New England. The figures for 1910 are not strictly comparable with those for 1900, since the 1910 census included younger cows than were included in 1900

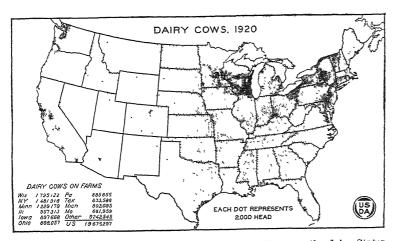


Fig. 17.—In number of cows Wisconsin took first rank among the dairy States in 1920; Minnesota was third, New York being second Some of the eastern States continued to reduce. What may be called the dairy belt extends from the coast north of Maryland and north of the Corn Belt west to the semi-arid Great Plains. The eastern part of this belt suffers from competition with the West where feed is more abundant and cheaper.

In the West there appears no authentic history as to the first cattle, but the friars at the various settlements had large herds at an early date.

These early herds were not well cared for either as to proper feed or shelter; however, they continued to multiply and spread over the country.

The export statistics of 1790 furnished the first definite measure of the productivity of dairying in the United States. These statistics indicate that the New England States, New York, and Pennsylvania were producing considerable amounts of butter and cheese in addition to what was con-

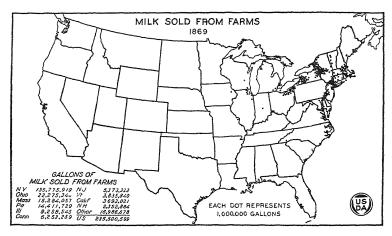


Fig. 18.—Probably the greater part of the milk sold from farms in 1869 was whole milk for cities. Some of it went to noncooperative cheese factories. Compare with maps of cheese made on farms 1869.

sumed at home. Other States contributed small amounts to the export trade, which in the year named amounted to about 670,000 pounds of butter and 145,000 pounds of cheese. The average exports of the three years, 1790–1792, were 948,000 pounds of butter and 133,000 pounds of cheese. This is not a very large amount, but relative to the population of the country at that time this export was important.

By 1790 a few cities had become large enough to furnish markets for considerable amounts of butter and milk. New York had a population of 33,000, Philadelphia 28,000, and Boston 18,000. All the milk that was needed by these cities

could be produced near by and peddled by the producers. After the War of 1812, manufacturing and commercial centers grew rapidly along the coast. Butter and cheese production developed in the back country as transportation

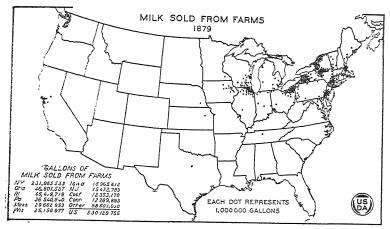


Fig. 19.—The milk supply zones about the larger cities expanded between 1869 and 1879. Note the Philadelphia, New York, Boston, and Chicago areas. Cleveland and Buffalo took some of the milk from northeastern Ohio and western New York, but most of it went to cheese factories.

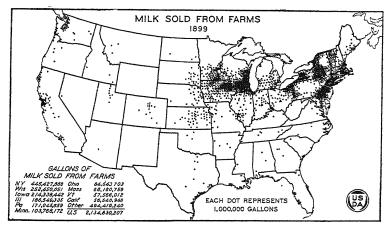


Fig. 20.—The whole milk supply zones of some of the great cities had spread out over large areas by 1899. Boston drew milk from most of New England. New York City drew milk from central and eastern New York, Vermont, and western Massachusetts and Connecticut. In the East most of the milk sold went to the cities, whereas in the West much of it went to cheese and butter factories and some to condensaries.

304 Yearbook of the Department of Agriculture, 1922.

developed. The opening of the Erie Canal and other canals connecting Lakes Erie, Champlain, and Ontario with the Hudson River encouraged the development of dairying for butter and cheese in up-State New York, Vermont, and Ohio.

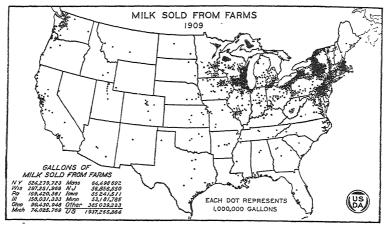


Fig. 21.—On this map groups of dots generally locate large cities. In the larger black areas milk is also sold to condensaries, cheese and butter factories. Railroads carried milk to New York City from the Canadian border on the north and from near Buffalo on the west.

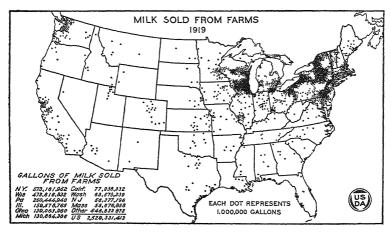


Fig. 22.—The amount of milk sold from farms, as in 1899 and 1909, is concentrated north of the Ohio and east of the Mississippi rivers. The major portion of the whole milk sold from farms is for direct urban consumption or for manufacture in cheese factories and condensaries.

The census of 1840 reported the value of dairy products as \$33,787,000, which in terms of the 1913 dollar would be about \$28,900,000, or a little greater than the value of the dairy products of Iowa in 1919, reduced to the same mone-

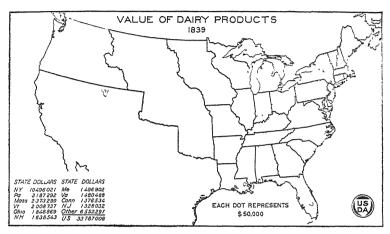


Fig. 23.—The value of dairy products is the only measure of dairying available for 1839. The most important centers of production were in the vicinity of Boston, western Connecticut, vicinity of New York City, in the Mohawk Valley of central New York, and in the vicinity of Philadelphia on both sides of the Delaware River.

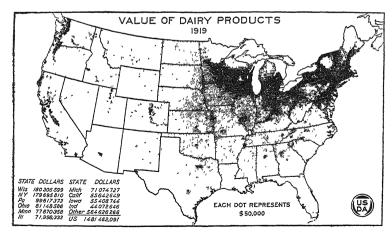


Fig. 24.—This map presents a striking contrast to the map for 1839. The value of the dairy products of the Rocky Mountain States in 1919 was greater than that of the United States in 1839. Prices were much inflated in 1919, \$50,000 being equivalent to about \$28,400 in 1839, which makes the difference appear greater than it actually is. The following maps will show steps in the changes between 1839 and 1919.

tary basis. New York produced over one-third of the reported total value of dairy products in 1840. The accompanying map shows how dairying was connected up with the larger cities and transportation routes.

The decade 1840-1850 witnessed the beginning of railroad transportation of milk. As a city grows and the demand for milk increases, the area supplying the city must be

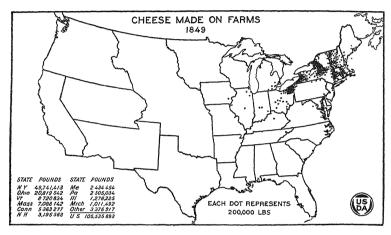


Fig. 25.—Western New England, central and western New York and northeastern Ohio were the important cheese producing regions in 1849. Cheese production was the pioneer form of commercial dairying in the cooler climates. Dairies near large cities sold milk or butter.

expanded, which increases the distance the milk has to be transported. In 1840 the population of New York City amounted to 312,000, and taking in the territory now included in New York City, over 390,000. A city of this size can use a large amount of milk. The railroad was a new means of transportation, and the first shipment of milk by rail recorded was made as an experiment in 1842 from Chester, Orange County, N. Y., to New York City. The experiment was satisfactory and shipments were continued. In a few years railroad transportation became an important factor in the development of dairying for the sale of whole milk to large cities.

The growth of cities, with increasing demands for milk, butter, and cheese led to the development of a highly specialized dairy business in certain localities. The development of dairying had a part in the evolution, sometimes called revolution, in farming in New England and New York. The first task of the farmer on new land in these States was generally to clear a little land in order that he might raise a little grain and enough feed for a cow. As the area of open or cleared land increased and land became available for pasture, the number of live stock, generally cattle for beef, or sheep, was increased. Following the Napoleonic wars and the War of 1812, sheep raising gradually gave way to cattle and dairying for butter and cheese, with hog production as a side line. The beef types of cattle were gradually superseded by the dairy type and as the whole-milk market zone expanded hog production was abandoned.

The demands for greater quantities of milk and its products caused the attention of dairymen to be directed toward the improvement of the dairy cow. Attention was given to better care, shelter, and feed, and the special dairy breeds received more consideration. Importations of Jerseys, Guernseys, Holsteins, and Ayrshires increased.

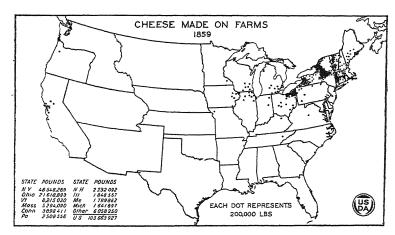


Fig. 26.—Some cheese was reported from California and Oregon for 1859. Minnesota was another new State to report about 200,000 pounds of cheese. Increases may be noted in Wisconsin, Iowa, and Michigan, on the other hand, reductions in New England.

308 Yearbook of the Department of Agriculture, 1922.

The Mohawk Valley, in New York State, was a great wheat-producing area, but wheat production moved on along the canal, leaving this valley to dairying. These changes were effected through competition of other areas producing

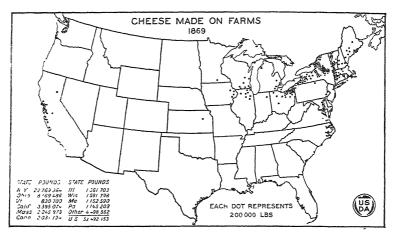
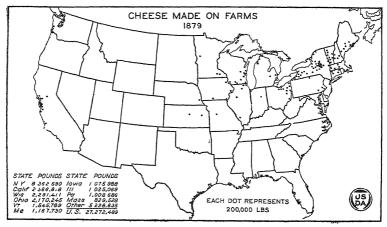


Fig. 27.—The farm production of cheese in 1869 was only half that of 1859. Cheese production had increased, but two-thirds of the product was prepared in factories which are not represented on this map. Farm production continued to be important in western New England, central New York and northeastern Ohio.



Frg. 28.—By 1879 cheese production on the farm had dwindled to one-ninth of the total production. The old centers of farm production, however, can still be recognized. A dot appears for the first time in Nebraska, also in the Red River Valley of Minnesota.

wheat, corn, sheep, and hogs, on the one hand, and through the development, on the other hand, of a greater demand for dairy products.

Farmers moving west often transported the type of farming they had learned in the East. Many of the New

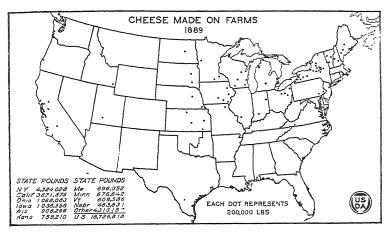


FIG. 29.—North Dakota, Idaho, and Utah each reported about 200,000 pounds of cheese for 1889. Kansas and Nebraska doubled their farm production since 1879, and Iowa increased its production slightly. Elsewhere farm cheese production generally continued to decrease.

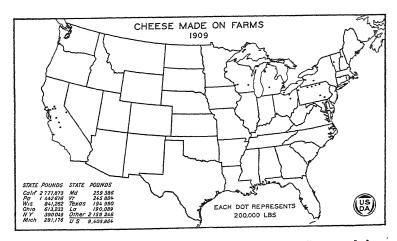


Fig. 30.—Farm cheese production had almost completely disappeared from most States by 1909. It is interesting to note that many farmers of California continued to make cheese. Farmers along the northern border of Pennsylvania seem to be reviving the industry.

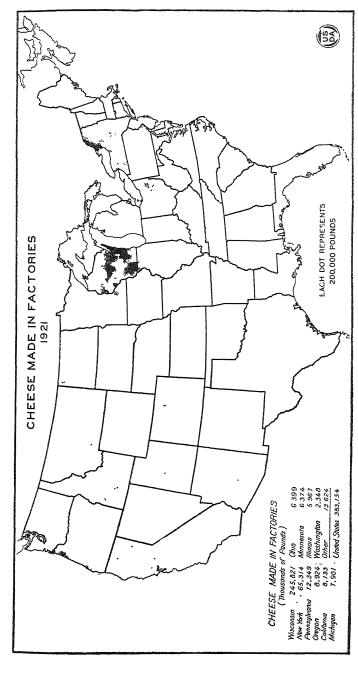
England farmers moved to western New York and to northeastern Ohio. The "Western Reserve" of Ohio became a second New England. Both sheep farmers and dairy farmers settled in this region, but, as in New England, sheep farming soon yielded to dairy farming. In 1849 northeastern Ohio was an important cheese-producing area and some cheese was being produced farther westward in Michigan, Iowa, and Illinois. The farm production of cheese was probably at its maximum about this time.

The factory production of cheese developed earlier than the factory production of butter. Although the factory production of cheese was not reported by the census of manufactures in 1850, there is evidence that by that date factory production was becoming fairly well established. In Connecticut it is recorded that at least one man was buying curd from neighbors and manufacturing a special brand of cheese for the market. Several factories were in operation in Ohio before 1850. The cooperative manufacture of cheese developed to some extent in New York in the next decade. The census of 1850 showed a decrease in the farm production of cheese. By 1869 factory production made up 67 per cent of the total and since then farm production has continually decreased until it has become a negligible quantity.

Condensing of milk had been in an experimental stage since 1800, but it was not patented until 1856. Milk powder was first made about 1810, although it was not until the World War that its manufacture became extensive.

The production of butter was also moving westward. Central and western New York had become important producers of butter as early as 1840. By 1850 Michigan had begun shipping butter to the East. Farm production of butter as reported by the census increased from 313,000,000 pounds in 1849 to 460,000,000 pounds in 1859.

The Civil War disturbed dairying as well as many other farm enterprises. The southern market for butter and cheese was partly cut off during much of the war. The war also greatly reduced the purchasing power of the South. The withdrawal of labor from the farm was also an important factor in reducing dairy production. By 1870 there had been some recovery. Many of the Eastern and Southern



of the United States, being made on farms. About two-thirds of the cheese is made in Wiscousin, and half of the remainder in New York. Cheese production has developed in those parts of Wiscousin and New York having less than 150 days in the growing season, Fig. 31,--Practically all the cheese is now made in factories, only 6,000,000 pounds in 1919, or less than 2 per cent of the total production except along the lake shores, and in the central, gandy portion of Wisconsin, which has poor pastures. The short, end season favors summer pasture and cheese production, just as slage, winter dairying, butter making, skim milk, hogs, and corn complete the economic cycle in the warmer belt to the South.

312 Yearbook of the Department of Agriculture, 1922.

States had not recovered, but in some of the Western States the number of cows had increased very rapidly in the short period following the war.

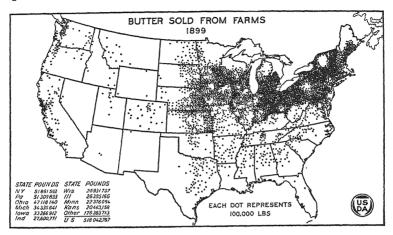


Fig. 32.—This map marks well the areas of commercial dairying. In the South as a rule cows were kept only to supply home needs. Much of the butter and all of the cheese consumed in the South was produced in the North. The farm production of butter for market in 1899 was in the hay and pasture region of the northeastern and Lake States, with a less dense production in the Corn Belt.

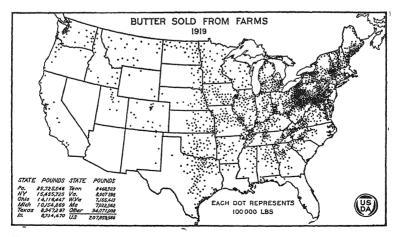


Fig. 33.—Most of the butter now used in the United States is made in factories. Farm production persists to some extent in hilly and mountainous regions in the East. West of Ohio factory production is general, except in occasional small areas. Wherever topography is very rough and cows are not numerous, gathering milk or cream for a factory may not be feasible.

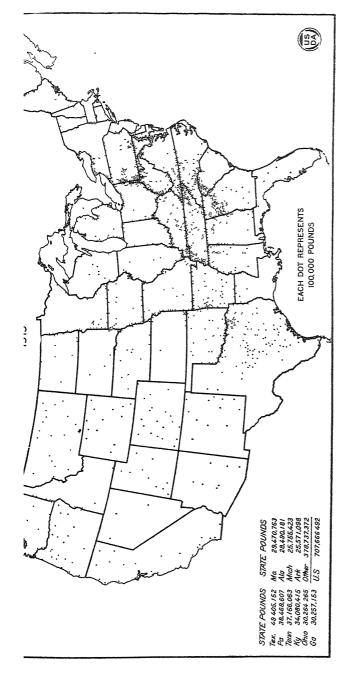


Fig. 34.—Butter made on farms in 1919 constituted 43 per cent of the total production of 1,646,171,874 pounds reported by the census. The areas of densest production of farm butter, it will be noted, are (1) the L'iedmont Platen, extending from easten l'emissivanin to Alabama; (2) the Temessee River Valley of northern Alabama and easten Temessee; (3) the upper Ohlo River basni; (4) the western portion of Kentucky and Temessee; and (5) the northeastern portion of Texas. It is notable how little butter is made on farms in Wisconsin and Minnesota, where the factory system is well developed. Over half of the farms in the United States made was soid. Most of this farm butter sold was consumed in the locality where it was produced.

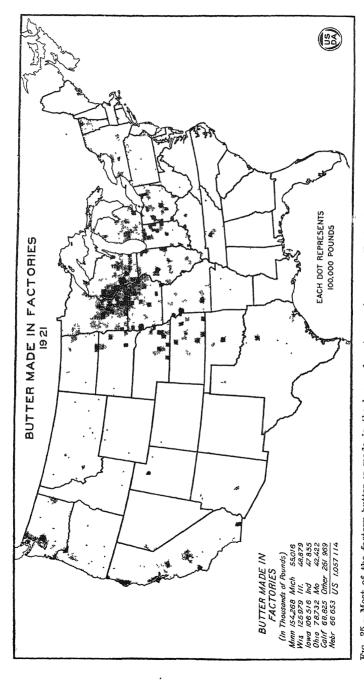


Fig. 35.—Most of the factory buffer is made in the hay and pasture region, especially in the western portion, in the Corn Belt, and in the Pacific Coast Regions. The spotted character of the map, especially in the Corn Belt, indicates the concentration of hittermaking in a relatively few cities to which the cream is shipped from the farms. Whereas only half as much buffer was sold by the farmers of the United States in 1919 as in 1909, the amount of butter fat sold increased 74 per cent and of cream sold 50 per cent.

The 20 years 1870–1890 was a period of rapid development in the dairy industry in the United States. Scientific methods were being applied to all branches of dairying. The use of the thermometer became general. The centrifugal separator was invented in Sweden and brought to the United States in 1882. Large numbers of dairy organizations were started. The Babcock test for measuring the quantity of fat in milk was given to the world in 1890. Silos were first con-

NUMBER OF DAIRY COWS IN RELATION TO NUMBER OF PEOPLE, 1850-1920.

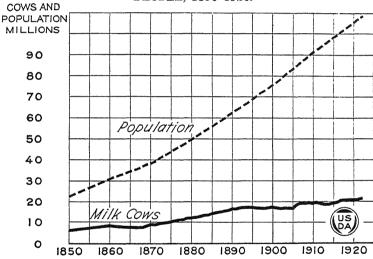
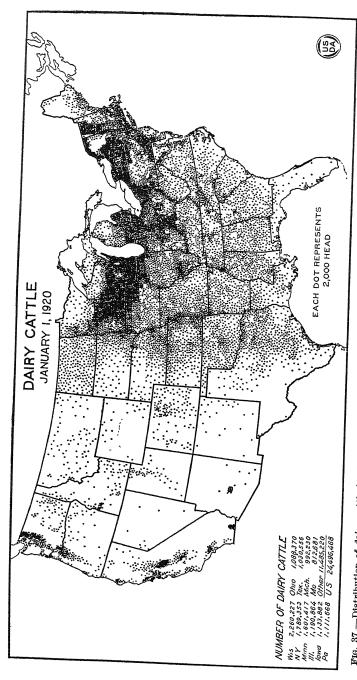


Fig. 36.—In 1850 there were about 6,400,000 dairy cows, and in 1920 there were 23,722,000 dairy cows. In 1850 the population was 23,200,000 while in 1920 it was 105,710,000. In 1850 there were 275 cows per 1,000 population, while in 1920 there were only 215 per 1,000 persons.

structed in 1873 in the United States and the refrigerator cars first used in 1875.

It is the only period of any great duration when the number of cows has increased in proportion to the population. In the 20 years the number of cows in the country doubled. In 1870 there were 231 dairy cows per 1,000 people. This ratio increased until 1890 when there were 262 dairy cows per 1,000 persons. Since that time, however, the ratio has become wider. Dairying largely displaced wheat growing in northern Illinois and Wisconsin, in eastern and northern Iowa, and began to encroach upon the wheat growing in southeastern Minnesota.



in the hay and pasture region and the adjacent northern and eastern margin of the Corn Belt, Nine-tenths of the dairy cattle are in the East. Fig. 37.—Distribution of dairy cattle in the United States in 1920. Each dot represents 2,000 head.

At this point it may be noted that the westward movement from New England to Iowa has followed a course just north of the most important winter-wheat producing areas and along the northern border of the great Corn Belt. This is the zone in which corn frequently does not mature before frost, in which winter wheat frequently freezes out, and in which spring-sown wheat is very susceptible to rust and for other reasons does not yield well. The climate of this belt or zone is well suited to dairying. Consequently, dairying fits admirably into the agriculture of this region.

Although the great expansion of the industry has been west of the Alleghany Mountains, the East also has con-

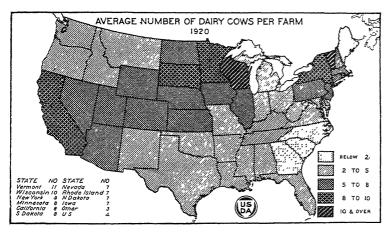


FIG. 38.—The average number of dairy cows per farm varies greatly. Wisconsin has 13 6 per farm, Veimont 11.3 per farm, followed by New York with 8.9, Minnesota 8.3, Caifoinia and South Dakota each with 7.6. The average decreases to 1.6 per farm in South Carolina.

tinued to develop. The East not only has increased the number of cows but has made great progress also in improving the quality of the dairy herds.

During the last years of the century—that is, from 1895 to 1900—the hand separator was the oustanding factor in dairy development. These were small machines for removing the cream from fresh milk, and were bought by farmers who skimmed the cream and delivered it to the creameries instead of delivering the whole milk, or gravity cream, as had been the practice. Hand-separator cream

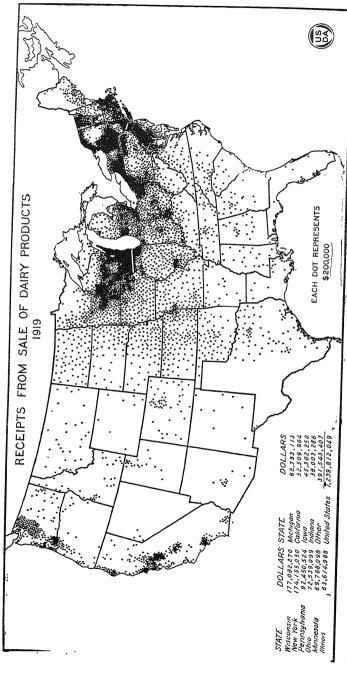


Fig. 39.—This map shows the commercial dairying districts. The concentration in the hay and pasture region is much greater than that of dairy cattle. Commercial dairy centers may also be noted near the large cities outside this region, notably Philadelphia, Baltimore, Washington, Cincinnati, Indianapolis, St. Louis, Kansas City, Los Angeles, and San Francisco. These, as also the centers adjoining New York City, Boston, Buffalo, Cleveland, and Detroit, represent market milk mostly; while the larger districts in central and northern New York, in Wisconsin, and in Minnesota represent milk and butter fat sold to creameries and cheese factories largely. The value of dairy products consumed on the farm is estimated by the census at about \$240,000,000.

could be shipped long distances by railroad. This gave the opportunity for the growth of the centralizer system, which consists of a large central plant to which the cream is shipped and churned into butter. The system gave opportunity to the sparsely settled districts where there was not sufficient cream to support a creamery.

Although ice cream was served to George Washington, the twentieth century marks the great expansion in factory production of ice cream. The milking machine was invented earlier but its perfection and widespread use came in the second decade of the twentieth century. The first bull association was established in 1908.

The Production of Dairy Cattle.

Efficiency of Dairy Cattle.

The efficient dairy herd must be composed of high-producing cows. Large yields of milk and butter fat per cow are therefore the aim of most dairymen and also of most

RELATION OF BUTTER FAT PRODUCTION PER COW TO FEED COST PER POUND OF BUTTER FAT. RELATION OF MILK PRODUCTION TO FEED COST PER 100 POUNDS OF MILK.

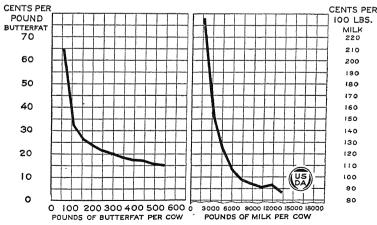


Fig. 40.—The first part of the chart shows a rapid decrease in the feed cost per pound of butter fat as butter fat production per cow increased from 100 pounds to 500 pounds. The second part of the chart shows a rapid decrease in the feed cost per 100 pounds of milk as the milk production per cow increased from 3,000 pounds to 13,500 pounds. In both cases the greatest saving in feed cost occurred as production advanced from a low average to a medium average per cow. Based on 18,014 cow-testing association records of butter-fat production and 3,220 records of milk production.

breeders of dairy cattle, because it is self-evident that the income from a dairy depends ultimately on the earning capacity of the individual cows in the herd.

A study of yearly butter fat and income records of 18,014 cow-testing association cows for the period 1910 to 1920 showed a rapid and almost uniform increase in income over cost of feed as production increased. For every breed and for every age of every breed, high production, when large groups were considered, was always accompanied by large average income over cost of feed.

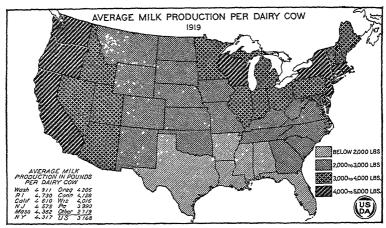


Fig. 41.—The above chart shows the average milk production per dairy cow for each State in the Union in 1919. The average production per cow is very low in the Gulf States and Arkansas and high in the Pacific Coast States, in Wisconsin, in New York, New Jersey, and southern New England.

These records showed that the cows giving 100 pounds of butter fat a year produced an average income for the farmer above feed cost of about \$10; at 200 pounds of butter fat a year the income above feed cost averaged about \$42; at 300 pounds a year the income averaged about \$72; and at 400 pounds of butter fat the average income was about \$106 a year per cow. While the cows in the last class averaged four times as much in production as those in the first, they gave an average income over cost of feed that was more than ten times as great. A tabulation of the records of dairy cows from those districts where the product was sold as whole milk showed similar results. In all cases

the high-producing groups were the profitable producers from the standpoint of income over cost of feed.

The groups of high-producing cows were also the groups that produced milk and butter fat economically from the standpoint of cost of feed per pound of butter fat or per 100 pounds of milk.

As production increased from the lowest-producing to the highest-producing groups, the feed cost per unit of production went down, rapidly at first but more slowly as produc-

AVERAGE MILK PRODUCTION PER COW IN DIFFERENT COUNTRIES.

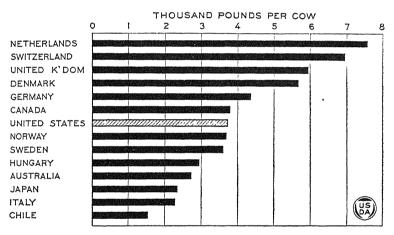


Fig. 42.—The milk-production figures upon which the above chart is based are those nearest to 1914 that are available; they are not all for the same year. The United States stands seventh in the list in average production per cow, our production being only about one-half what it is in the Netherlands. The production of milk in the United States can be greatly increased without increasing the number of dairy cattle.

tion reached a high average. In the economical production of milk and butter fat, the largest gains are to be obtained through the culling out of those cows that produce less than 4,000 pounds of milk containing less than 160 pounds of butter fat.

It has been estimated that the average dairy cow in this country produces yearly about 4,000 pounds of milk containing about 160 pounds of butter fat. Selection, feeding, and breeding could double this low average. With double the present average production, fewer cows would furnish the present supply of dairy products at much less cost.

The income over cost of feed is one of the best measures of a cow's efficiency, and the cows that averaged 400 pounds of butter fat a year had about two and one-half times the income over cost of feed per cow as those that produced only half that much. All studies that have been made of dairy cattle indicate that where other things are equal the economical producers are always comparatively high producers.

Breeding Dairy Cattle.

How to breed to insure the getting of calves that when grown to maturity will be economical and profitable producers is a most important problem. The thought given to breeding by many farmers is limited to seeing that their cows freshen regularly, thus regulating the flow of milk; and while the continuous and regular breeding of the herd is an economic necessity, it does not solve the problem of the producing ability of the next generation. In most cases the producing capacity of the next generation is dependent on the ability of the sire to transmit uniformly high production to his daughters.

Grade bulls, whose dams were the best cows in their respective herds and whose sires were chosen on the same basis as themselves, still head many dairy herds. Once in a while a grade bull chosen in this manner may sire some very good animals, but as a rule, because of the number of poor-producing ancestors in his pedigree the chances are against his being able to improve the producing ability of the herd. It is because of this lack of uniformity of producing ability in the hereditary make-up of the ancestry of the grade bull that he is likely not to prove prepotent in transmitting uniformly high milk and butter-fat-producing capacity. And it is because of the likelihood of there being greater and more uniform excellence in the hereditary make-up of the pure-bred bull that he is more likely to prove prepotent in improving the producing ability of the next generation.

Nor can we depend absolutely on the pure-bred bull proving prepotent. The pure bred is more likely to be prepotent than the grade, but there are a great many poor pure breds, and so careful selection must be made within the pure breds. Even with the best and most careful selection there are many

disappointments, indicating the great care and time required in breeding before the hereditary streams become pure for any one characteristic, such as producing ability.

In the selection of young bulls in the past a great deal of weight has been given to the record of the dam. Perhaps more emphasis has been put on the record of the dam than on any other, or probably all other considerations; and it is natural that this should be so, for the fact that a cow is a great producer must indicate that in her hereditary make-up she must have at least a part of the factors that determine high production. It would seem, unfortunately, that the dam's high-producing ability does not necessarily indicate. however, that she does not have any of the factors that determine low production in her hereditary make-up; and that if these factors determining low-producing ability are present in the make-up of the high-producing cow she will probably transmit low-producing ability to a part of her offspring. While it does not seem possible to determine the hereditary make-up of the cow on her production record alone, it is probable, in the case of a sire that has had a considerable number of daughters that have proved to be uniformly high producers, that the hereditary make-up is pretty nearly pure for the factors governing high production. It is the discovery and use of such prepotent sires that constitutes the most important and the surest steps in breeding progress.

If it is necessary to select a young, untried bull, the safest course is to select a son of a tried prepotent sire out of a dam with a good record, and who was also a daughter of a tried prepotent sire. This practice of the widest use of these prepotent sires and their progeny, which have proved by their breeding performance that they have in their hereditary make-up only the factors that govern high production, appears to be more important than all other theories of breeding, such as the mating of closely or fairly closely related animals. One of the most important principles in breeding is that the breeding performance of an individual depends entirely upon the combination of factors it received from its parents, and through them from its ancestry, at the time of conception. If, for milk- and butter-fat producing ability, it happened to receive all factors that will determine

324 Yearbook of the Department of Agriculture, 1922.

low production, then it will transmit low production to its offspring, regardless of the number of great-producing ancestors it may have.

Pure-bred Dairy Cattle.

There were 916,602 head of registered pure-bred cattle of the dairy breeds in the United States in 1920. Of these pure-bred dairy cattle, 57.7 per cent were Holstein-Friesians, 25.3 per cent were Jerseys, 8.7 per cent were Guernseys, 3.3 per cent were Ayrshires, 0.9 per cent were Brown Swiss, and

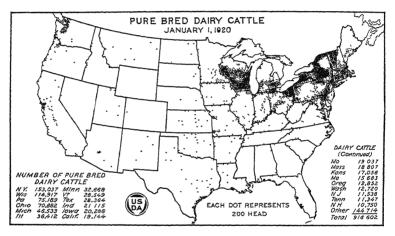


Fig. 43.—Pure-bred dairy cattle are found in greatest numbers in the Northern and Northeastern States, but they are gaining rapidly in the Central, Southern, and Pacific Coast States, and are also to be found on most of the irrigated projects in the Rocky Mountain States. Pure-bred dairy cattle are widely distributed over the United States, as shown by the geographical location of the 12 States having the greatest numbers, with New York first, Wisconsin second, Texas ninth, and California twelfth. Outside of Texas, more pure-bred dairy cattle are found in Tennessee than in any other Southern State.

4.1 per cent were classed as "all other breeds," with an explanation stating that this "includes animals reported as pure bred, with breed not specified."

These 916,602 pure breds constitute only 2.92 per cent of the 31,364,459 dairy cattle reported on farms in 1920. These pure-bred dairy cattle are widely distributed over the United States, there being but very few States that do not have representatives of all of the five breeds. There would be a tremendous economic gain to the dairy industry if more of our grade dairy cattle could be replaced by pure breds. The scrub and grade dairy cattle are, however, being gradually but slowly improved by the use of pure-bred bulls. Only

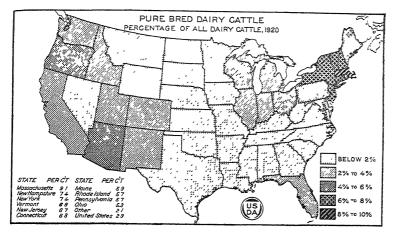


Fig 44.—Only one State (Massachusetts) has more than 8 per cent of her dairy cattle pure bied. New York, Vermont, New Hampshire, Connecticut, and New Jersey have more than 6 per cent but less than 8 per cent, while Rhode Island, Pennsylvania, Ohio, Wisconsin, Oregon, Maine, and Arizona have more than 4 per cent but less than 6 per cent. About 58 per cent of the registered dairy cattle in the United States are Holstein-Friesians, 25 per cent are Jerseys, 9 per cent are Guernseys, 3 per cent are Ayrshires, and 1 per cent are Brown Swiss, the remainder being unspecified.

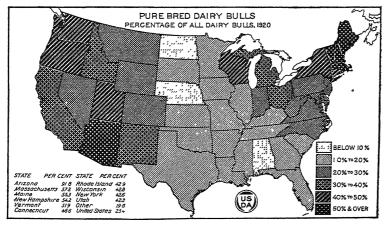
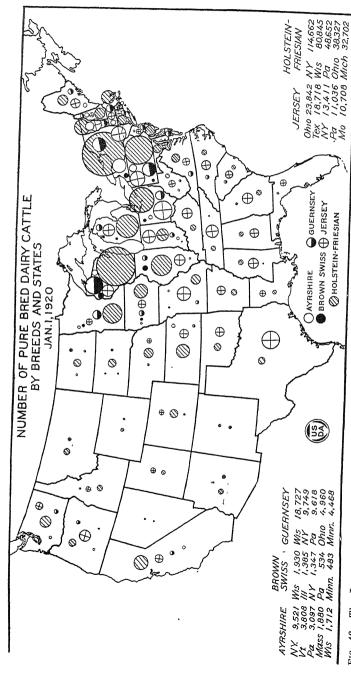


Fig. 45.—Maine, New Hampshire. Vermont, Massachusetts, and Arizona have more than 50 per cent of their dairy bulls pure bred. New York, Connecticut, Rhode Island, Wisconsin, Utah, Oregon, and Washington have 40 to 50 per cent. For the most part those States with the largest percentage of their dairy cattle pure bred have the largest percentage of their dairy bulls pure bred, and also have the largest average production of milk and butter fat per cow.



numbers by breeds are as follows: Ayrshires, 30,509; Brown Swiss, 8,283; Guernseys, 79,446; Holstein-Friesians, 528,621, Jerseys, Fig. 46.-The Jersey breed predominates in the Southern States and the Holstein-Friesian breed in the Northern States 231,834; and all other breeds, 37,909, making a total of 916,602 pure-bred dairy cattle.

about 25 per cent of the dairy bulls 1 year old or over are pure bred. The fact that 75 per cent of the dairy bulls in use are either grades or scrubs—in either case bulls from ancestry that has not been bred generation after generation for large and economical production of milk and butter fat—accounts for the low average production per cow in this country.

In 1921 there were less than 80,000 pure-bred bull calves registered by the breed associations. But this probably does

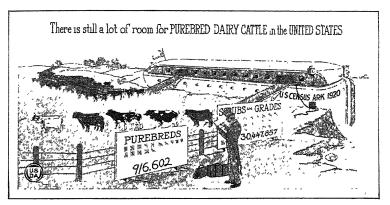
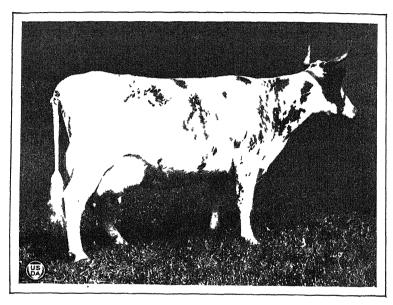


Fig. 47.—The census of 1920 showed that while there were 31,364,459 total dairy cattle, only 916,602, or less than 3 per cent, were pure bred (registered).

not represent half the pure-bred bulls born in 1921. The 80,000 or more that were not registered, in addition to a part of those that were registered, were probably slaughtered because their breeders were not able to market them profitably. This is because the average farmer is not yet convinced of the advantages to be derived from the use of pure-bred sires. If every pure-bred bull calf born in this country were raised, it would take a three or four years' crop of calves to replace the grade and scrub bulls (which number approximately 600,000) that are being used in dairy herds. When it is considered that not all pure-bred calves are worthy of being used, even on grade herds, and allowance is made for the normal death rate and other factors that enter to cut down the number of pure-bred bulls raised, the above estimate of a three- or four-year crop of bulls could safely be

increased to a five- or six-year output of pure-bred bulls that would be required to replace the scrub bulls.



CHAMPION AYRSHIRE BUTTER-FAT PRODUCER.

FIG. 48.—The first champion producer of the Ayrshire breed was Rena Myrtle, who made a record in 1896 of 12,172 pounds of milk and 467.9 pounds of butter fat. Lily of Willowmoor, whose picture is shown above, now holds the record for butter fat production. Her record was made in 1914, when she produced in 365 days 22,596 pounds of milk and 955.56 pounds of butter fat. This record had not been exceeded up to December 1, 1922.

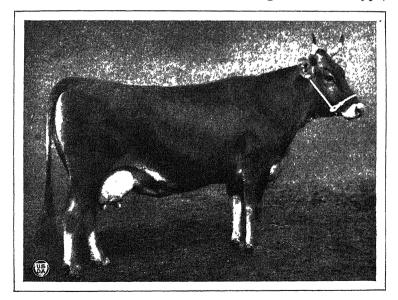
Those States that have the largest average milk yield per cow also have the largest percentage of pure-bred dairy cattle and the largest percentage of pure-bred bulls. The group of States in which the average production per cow was 4,427 pounds had 5.5 per cent of their dairy cattle pure bred and 42.5 per cent of their dairy bulls pure bred, while those States in which the average production per cow was 1,606 pounds had but 1.4 per cent of their dairy cattle pure bred and only 12.6 per cent of their dairy bulls pure bred.

There is opportunity for breeders of pure-bred dairy cattle. With only about 3 per cent of our dairy cattle pure bred, and even with an increasing interest in pure breds, a long time will be required to get a large proportion of our dairy cattle pure bred. As the number of breeders of pure-

bred cattle increase, the competition and demand for the better class of pure breds will increase proportionately. The fact that the breeder of dairy cattle can definitely measure his success by the increase in milk production makes the breeding of dairy cattle most fascinating.

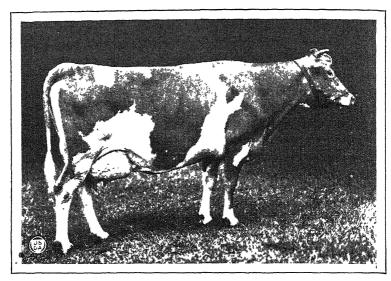
There are now more than 10,000 pure-bred dairy cattle on yearly test for the advanced registry and register of merit—conducted under the supervision of representatives of the State experiment stations—and the number is constantly increasing. Some wonderful production records have been made by individuals of each breed. There is a growing interest in the production records of entire herds and especially in the performance of all the daughters of a sire, because of the greater appreciation of the importance of the prepotent sire.

However, there is danger that dairy-cattle breeders, in their efforts to breed animals conforming to a certain type,



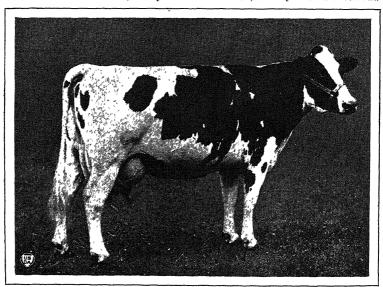
CHAMPION BROWN SWISS BUTTER-FAT PRODUCER.

Fig. 49.—Hawthorn Dairy Maid, the champion producing cow of the Brown Swiss breed, has a record of 22,6226 pounds of milk and 927.23 pounds of butter fat. The record was completed in 1922, and had not been exceeded up to December 1, 1922. This cow was also second in the aged-cow class at the National Dairy Show in 1922, when judged on conformation and appearance and not on production.



CHAMPION GUERNSEY BUTTER-FAT PRODUCER.

Fig. 50—The first Guernsey champion producer was Glenwood Girl 6th, who made a record in 1901 of 12,187.33 pounds of milk and 572.3 pounds of butter fat. The present champion producer is Countess Prue, whose picture is shown above. Her record is 18,626 9 pounds of milk and 1,103.28 pounds of butter fat.



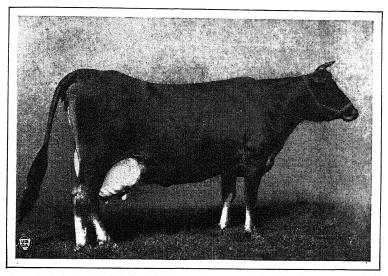
CHAMPION HOLSTEIN-FRIESIAN BUTTER-FAT PRODUCER.

Fig. 51.—The first champion producing Holstein cow whose record was made under the supervision of an experiment station and by the Babcock test was Belle Sarcastic, who made a record in 1897 of 23,189.6 pounds of milk and 721.68 pounds of butter fat. The present champion is Duchess Skylark Ormsby, whose picture is shown above. Her record, made in 1915 is 27.761

may forget the real goal of dairy-cattle breeding, which is large and economical milk and butter-fat-producing ability. On the whole, dairy-cattle breeding is on a sounder, saner basis than ever before; and with the responsibility of the improvement of 97.1 per cent of our dairy cattle resting on 2.9 per cent it is important that our dairy-cattle breeders use every possible means to supply only the best of breeding stock.

Feeding Dairy Cattle.

The dairyman's success in production depends largely upon three factors—the man, the feed, and the cow. As a



CHAMPION JERSEY BUTTER-FAT PRODUCER.

Fig. 52.—The first Jersey cow to make a world's record under Register of Merit regulations and by the Babcock test was Dolly's Valentine, who in 1899 produced 10,218.3 pounds of milk and 578.7 pounds of butter fat. The present champion is Lad's Iota, whose picture is shown above, and who produced 18,632 pounds of milk and 1,048.07 pounds of butter fat. The record was made in 1922, and had not been exceeded up to December 1, 1922.

grower of feeds he must produce suitable crops at a cost which will furnish food nutrients for less than they can be purchased. As a dairyman, he must select suitable feeds that will furnish the nutrients at the lowest cost, and so balance the ration as to provide the cow with the different

nutrients in the right form and quantity. The ability of the cow to handle a large quantity of feed and to turn it into milk is equally important.

In most sections the cheapest of all feed is pasture, because it furnishes a balanced ration at low cost, and because the cow does her own harvesting. In general, pasture does not produce so much feed to the acre as forage crops, especially alfalfa and corn, but the cost of production as regards labor is less than that of crops harvested. A great variety of plants may be used for pasture, and aside from the mountainous and arid regions of the West there is probably no section of considerable size in the United States where good pasture can not be produced.

Pasture is often located on that part of the farm too wet, too stony, or too rough for other purposes. It has to take care of itself. Fertilizer is used elsewhere. For these reasons the carrying capacity is usually far from the maximum. In late summer the pastures often become short and dry and are not sufficiently supplemented with other green, succulent forage. In comparatively few cases is the fullest possible use made of pastures.

Because of the low returns from the ordinary pasture, the idea has become rather prevalent that the use of pasture on high-priced land is not advisable. Instead of improving the pastures, the dairyman in many instances has turned to soiling or silage for summer feeding. The price of land and labor largely determine the practice to follow. In Illinois, for instance, sweet clover is taking the place of blue grass as a pasture crop. The sweet clover does not dry up in the summer, and it is possible to keep two cows instead of one to the acre throughout the season. Probably there is no section of the humid part of the country where the native grasses can not be improved upon either by supplementing or by substituting other grasses and clovers.

For winter feeding, leguminous hay of some sort should be raised in most localities, first, because it supplies the protein and minerals so indispensable to continuous milk production, and, secondly, because it enriches the soil. Of all the hays, alfalfa must be accorded first rank. It is more palatable, more efficient as a producer of milk, and will

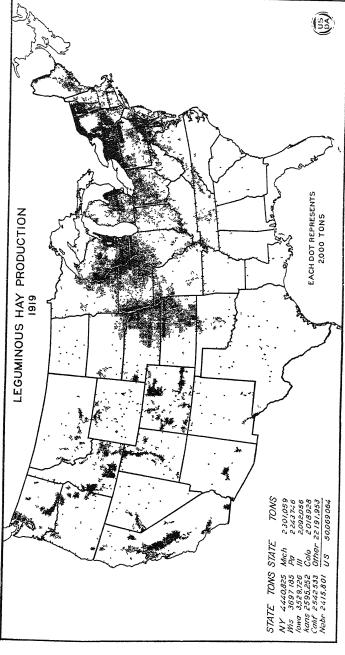


Fig. 53.—Leguminous hays are splendid feed for dairy animals, and where they can be grown successfully are replacing other hays. West of the Missouri River the leguminous hay is almost wholly alfalfa, east of the Missouri and north of the Cotton Bell It is mostly timothy and clover mixed and clover alone. Clover includes red, alsike, and crimson clover and several other legumes of less napor The scattered dots in the Cotton Belt represent mostly cowpeas and soybeans cut for hay, and lespedeza.

usually yield much more to the acre. Of the common legumes red clover must be ranked second in importance as a milk producer. Of the annual legumes, soy beans seem to make a better hay than cowpeas. The proportion of leaves and seed, the most valuable parts of the plant, is greater and the plant is more easily cured. Cowpeas yield about the same as soy beans. In harvesting they lose their leaves so readily that the hay is often stemmy.

Silage is one of our best feeds. Corn makes the most palatable silage and is one of our heaviest yielders of food nutrients. Putting it into the silo enables it to be more completely utilized than harvesting in any other way. Where corn can be grown successfully, there is no need to look further for a silage crop. In certain regions where corn will not do well sunflowers have been used with good results, also oats and vetch. Silage is very palatable and its succulent nature is thought to be of benefit to the cow. It appears that in many instances the heavy-producing cows are fed so much silage as to limit the quantity of hay consumed to a point below the needs of the cow.

In addition to roughage cows need some concentrated feed, as it is impossible for them to consume sufficient rough feed to produce a maximum flow of milk. Dairymen can often raise corn or barley, oats, and sometimes soy beans, and thus materially reduce their expenditures for the purchase of feed.

The old advice of 1 pound of grain to 3 pounds of milk testing 4 per cent fat, a little less for thinner milk, a little more for richer milk, and all the hay and silage the cow will eat, still holds good in most localities. In this connection it should be remembered that the higher the selling price of milk, the more liberally a cow can be fed grain with profit.

As the legume hays are rich in lime it is advised that at least 1 pound of hay be supplied for each 4 pounds of milk, with a minimum of 6 pounds to the cow per day.

Cows in milk may be likened to work horses. It is not economical to keep a cow too fat and it is equally unprofitable to permit her to get too thin; but she should be kept in good working condition.

New Discoveries in Feeding.

Experiments in nutrition in the last few years have resulted in the discovery of new principles in nutrition, many of which are important in the proper feeding of dairy cattle. It has been found that an adequate diet must contain certain mineral ingredients and certain organic compounds whose exact chemical nature is still unknown, and which have been called vitamins. It is quite possible to make up a diet from ordinary feedstuffs which will contain sufficient protein and energy, and yet be deficient in either minerals or vitamins or both.

There is every reason for believing that the whole subject of feeding for the maintenance of high milk yields can be very much simplified as compared to the systems of feeding now practiced, and also great economies introduced into feeding practices, by a systematic study of the mineral and vitamin contents of dairy feeds and of the relation of these to milk production. It seems probable also that the mineral and vitamin contents of dairy feeds may be found to have an important bearing on the breeding vigor, or reproductive ability, of dairy cattle. These studies are under way and results of considerable practical importance have been obtained. It is not feasible to give a full account of these here, but as an example it has been shown that high-producing dairy cows suffer from a shortage of lime unless they are fed much larger amounts of legume hay than is customary in many parts of the country, and that there is a vitamin in fresh, green feed which will probably promote the assimilation of lime by milking animals. It has also been shown that there are differences in the values of protein for feeding dairy cows.

Dairy Sanitation.

In early days the population of the United States was essentially rural, and dairy products were produced close to the place of consumption. Most families kept cows, and those that did not secured milk from neighbors. As villages grew into cities milk production was forced farther away, while the consuming public became proportionately greater. When milk reached the consumer it was often

sour or spoiled, because methods of production were crude and transportation was slow. Furthermore, products manufactured from such milk were often of inferior grade. These occurrences naturally somewhat restricted the use of dairy products. Physicians also observed that only milk of high quality was satisfactory for use by infants and children.

The growing complexities of the situation brought out very forcibly the necessity of utilizing better methods of producing and distributing milk. Fortunately the science of bacteriology developed coincidently with this need. Bacteriorological studies pointed out the imperfections and indicated remedies.

At first progress was slow. Dairymen did not fully understand the importance of the new era, and investigators themselves often had to change their opinions as new facts came to light. When knowledge became more definite and widespread an understanding ensued which led to rapid improvements in sanitation.

The production of the first certified milk, in 1893, under the supervision of a medical commission, created an added interest in dairy sanitation. Further research work so clarified our knowledge of the subject that the fundamentals of sanitary milk production were established. These fundamentals protect the consumer to the fullest extent, at the same time entailing the minimum restriction on the dairyman.

The improvement of sanitary conditions on dairy farms has been amazing. Comfortable, sanitary stables are the rule rather than the exception; cattle diseases have been carefully studied and vigorously combated, efficient dairy machinery has been developed, and cleanly methods are widely applied.

The discovery that heat would kill harmful, disease-producing bacteria in milk led to the widespread application of pasteurization, in which process milk is heated to 145° F. and held at that temperature for at least 30 minutes. Pasteurization is one of the greatest safeguards of our modern milk supply. It has also greatly aided in the manufacture of dairy products of higher grade. The delivery of milk in sterilized bottles has eliminated many of the objectionable features of milk distribution.

The extension of refrigeration and transportation facilities has enabled the dairy farmer to ship milk greater distances and insure the manufacture of more satisfactory products. This improvement in quality has resulted in an increase in the consumption of dairy products, due to their uniformity, greater safety, and increased palatability.

These changes, together with modern sanitary practices, require a greater expenditure of money for equipment and additional labor. This is true not only of production but of transportation and distribution. Milk is now being shipped 400 to 500 miles, necessitating considerable expense for refrigeration and transportation. Upon reaching the city, this milk must be prepared, bottled, and delivered to the consumer's door in a sanitary manner. These things naturally add to the cost of milk, but the cost is not excessive when the service rendered and the factors of safety are considered.

Dairy farmers are realizing that the stability of the industry rests largely upon the economy and wholesomeness of high-grade milk and cream. This is shown by the rapid trend toward higher degrees of sanitation wherever dairy products are produced or handled.

Legal Control of Dairy Products.

Keeping step with the changes in methods of milk production, regulations for the control of dairy products have undergone evolution. The distribution of milk is largely of such a localized nature that the regulatory features of the Federal food and drugs act do not apply and, accordingly, milk for direct consumption is controlled, in a large part, by State laws and local ordinances. Many products made from milk have, however, been defined and standardized in the interest of purity, uniformity, and proper labeling.

In addition to sanitary requirements, the control of dairy products takes into account questions of butter-fat content, amount of moisture, degree of concentration in the case of evaporated and dried milks, processes and organisms used in the manufacture of various cheeses, together with a consideration of methods of handling and packaging.

Meat Production From Dairy Live Stock.

The production of meat, although considered in the dairy industry as secondary to milk production, is nevertheless a highly important factor in the dairy business. The quantity of meat from this source is a substantial and considerable part of the total production of the country and may be divided into two general classes, (1) the beef obtained from the discarded cows, bulls, and some heifers and steers of dairy breeding, and (2) the veal from the calves. per cent of the matured dairy animals are slaughtered each year. If this percentage is applied to the number of matured dairy cattle reported on farms by the last census, and the average live weights and dressing yields are used in calculating the beef production, the result shows about 1,502,-450,000 pounds of carcass beef produced from dairy cattle during the year 1920. This quantity represents more than 23 per cent of the total beef production of the United States for that year. Probably 80 per cent of all the calves slaughtered are of dairy breeding. If this percentage is applied to the total number of calves slaughtered in 1920 and the resulting figure multiplied by the average live weight and dressing yields, the amount of veal produced by dairy calves is about 560,647,000 pounds for the year 1920.

The principal conditions which cause dairy cows to be discarded for milk-production purposes are: Old age, disease, physical defects, low milk yield, and sterility. Many old dairy cows and others that are unprofitable as milk producers are fattened for a short period and then sold for beef. When properly fed such cows make rapid gains, although the tendency is to accumulate fat externally and in the body cavities rather than to produce a well-marbled Such cows may be sold in the butcher grades but a large proportion properly belong in the cutter class. Such cutter animals furnish loins, ribs, and perhaps some other cuts, which are sold in the retail market trade or to the cheaper class of hotels and restaurants. A small proportion of dairy cows which, because of some physical defect or some other reason, are slaughtered at an early age produce good cow beef. The cows which are marketed direct from the dairies in a thin, paunchy condition yield a very low dressing percentage and are placed in the canner class.

About 85 per cent of the cow carcasses are graded as common or lower, and the meat is used largely in the preparation of sausage and canned meat.

Bulls are usually discarded for dairy purposes because of old age, uncontrollable or vicious behavior, or because they are no longer desired for breeding purposes. They are seldom suitable for dressed beef, as the meat of old bulls is coarse grained, dark colored, and has practically no marbling. A large percentage of the rounds are cured and prepared as dried or smoked beef and the remaining portions of the carcasses used for sausage.

While the quality of the beef produced from mature cows and bulls is of lower grade, this is not necessarily true with respect to veal obtained from dairy calves. Probably 95 per cent of the male and 50 per cent of the female dairy calves are slaughtered as calves. Most of these animals, if properly handled and slaughtered while young, produce a high grade of veal. The veal obtained from such calves above the age of 2 months is seldom equal to that obtained from calves of the beef type, largely because of the narrow back, light loin, and small hind quarter.

A number of the bull calves are castrated and eventually are marketed as fat steers. Investigations show that steers of dairy breeding may be fed so as to make satisfactory gains and compare favorably with beef steers in this respect, but they are generally less desirable than beef steers because their increased weight does not appear in the region of the most desirable meat cuts such as the back, loin, and hind quarters. Although beef produced from dairy cattle is generally inferior in quality to that from cattle of the strictly beef breeds, it is produced as a by-product of the dairy industry and aids in supplying a large demand by those persons who can not afford to pay for the better quality of beef furnished by the well-fattened cattle of the beef breeds.

Since a large part of the animals of dairy origin which are slaughtered are old or may be more or less diseased it is eminently important that they be examined before slaughter and that a careful post-mortem inspection be made by persons qualified to conduct such inspections in order to eliminate carcasses and parts which are unsound, unhealthful, or otherwise unfit for human food.

Tuberculosis.

Animal tuberculosis is considered to be the most serious disease that confronts the American farmer. The eradication of tuberculosis is an important economic problem to the cattle owner and dairyman, as well as an important matter from the public health standpoint. The existence of the disease is responsible for heavy financial loss to the owners of infected herds and enormous losses are sustained through the condemnation of beef and pork on account of tuberculosis. The annual expenditure of the States and Nation in suppressing the disease amounts to about \$7,000,000.

Improper housing and care are contributory causes of the spread of tuberculosis among cattle, but the most important factors in its dissemination are tuberculous cattle and milk fed raw to animals. The disease is usually slow in development. It is detected by the proper use of the tuberculin tests.

It is true that tuberculosis exists to but a very slight extent in many of the States, but in them the cattle owner is in danger of having his cattle become infected if he introduces cattle into his herd from outside sources without taking every precaution. The centers of infection in those slightly infected areas will, of course, become greater unless means are taken to check the disease. It is essential that any one in the business of raising or handling cattle of any sort, especially in the sections of the country where tuberculosis exists to any appreciable extent, take steps to eradicate the disease from his herd, if he has not already done so and to inform himself fully as to the precautions necessary to prevent the introduction of the disease into his herd.

With reference to the probable extent of bovine tuberculosis in the United States it is interesting to note that in 46.4 per cent of the total area, which area contains 41.2 per cent of all cattle in the United States, only 0.6 per cent of the cattle are believed to be tuberculous. The disease is believed not to exist to more than 10 per cent in but 5.5 per cent of the total area of the United States where 15.3 per cent of the cattle population is located.

The eradication of tuberculosis from cattle is largely a governmental problem, but the cooperation and support of the live-stock owners is necessary to make it a success.

Prior to 1917 considerable official and unofficial tuberculosis-eradication work was taken up in various parts of the country, but the cooperative campaign by the State and Federal Governments was not organized until 1917. The following table shows the tremendous gain in the cooperative work:

Table 2.—Tuberculin testing of cattle, fiscal years 1917 to 1922.

Year	Herds tested	Cattle tested	Reactors	s found
			Number	Per cent.
1917		20, 101	645	3.2
1918		134, 143	6,544	4 9
1919		329, 873	13, 528	4.1
1920	40, 348	700,670	28,709	4.1
1921	86,687	1,366,358	53,768	3.9
1922	195, 220	2, 384, 236	82, 569	3.5

This testing is voluntary on the part of the cattle owners in most instances; in fact, the Department of Agriculture on August 1, 1922, had a waiting list of approximately 64,700 farmers who desired to have their herds tested. There were on that date 227,050 herds containing 2,718,402 cattle under supervision, of which 17,017 herds and 384,395 cattle were accredited, and 175,413 herds containing 1,639,-407 cattle had passed one successful tuberculin test.

State indemnity partially reimbursing the owner for his reacting cattle is paid in all but six States. The Federal department also partially indemnifies owners of tuberculous cattle in those States which pay an equal amount.

The "accredited-herd plan" put into effect in December, 1917, has proved to be one of the important steps in the cooperative campaign. Out of it has grown what is known as the "area plan," which means the tuberculin testing of all cattle within a definite area or section of the country; usually a county is taken as a unit. The area project is becoming very popular, and the outlook for complete eradication of bovine tuberculosis is hopeful.

Eradication of Cattle Ticks.

Cattle ticks are a great hindrance to the development of the dairy industry in areas where the tick is found. So well known is this parasite and the damage it does that it is hardly necessary to explain that the tick is the carrier of the deadly disease variously known as Texas fever, tick fever, or splenetic fever, and murrain.

Without the tick there can be no fever, and hence the gigantic efforts to rid large areas of the United States from the ravages of this pest. The dipping vat and arsenical solution which is used in it for killing the ticks on cows is only a little less familiar than the ticks themselves. The method of dipping cattle through vats containing this solution has made it so practicable and feasible to rid cattle in whole areas of ticks that the possibility of accomplishing this great task is no longer in doubt.

Much evidence has accrued to show the increased value of live stock which has been freed of ticks, both in pounds of meat and gallons of milk produced; also numerous instances are constantly occurring in localities in every State where cattle ticks exist which show that the desire to engage in dairy farming is a strong incentive to tick eradication, and that the eradication of ticks makes more profitable dairying possible.

The damage that cattle ticks do to the dairy industry of the South and other areas infested with ticks has been measured by experiments conducted by the department in sections typical of the tick-infested territory of the Southern States. For instance, cows lightly infested with ticks produced 18.6 per cent less milk than cows kept free from ticks; and cows heavily infested produced 42.4 per cent less milk than cows that carried no ticks. Another important factor brought out by these experiments somewhat upset the common belief regarding immunity from tick fever of cows that have previously carried ticks.

When it is borne in mind that 944,187 cows were in the territory infested with ticks at the time the 1920 census was taken and that their average annual production was only 183 gallons, or about 1,573 pounds, of milk, it can readily

be seen what a financial gain an increase of 18.6 per cent, due to eradicating even a light infestation of ticks, would amount to in one year.

In 1906 the United States Department of Agriculture began cooperative work with the States in eradicating the tick. At that time 729.852 square miles of territory were infested. From that date until December 10, 1921, a total area of 523,837 square miles, or 72 per cent of the entire territory, had been released from Federal quarantine for controlling damage done by cattle ticks.

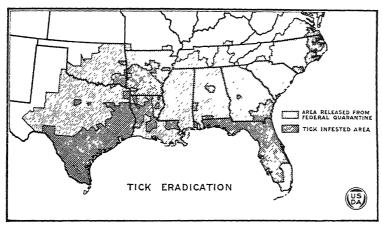


Fig. 54.—In 1996 there were 728,565 square miles infested with cattle ticks. At the present time this area has been reduced to 210,393 square miles, a release of 518,172 square miles. This has been accomplished by the cooperation of the United States Department of Agriculture with the various States. The States and counties have appropriated approximately three times as much as the Federal Government. In addition to this, the individual dairymen have expended an immense amount of time and energy. This has resulted in a great advance in dairying in the Southern States, a large reduction in losses from death by Texas fever, and an increased milk and butter-fat production per cow.

The eradication of the cattle tick from the Southern States and the prevention of its spread to other areas is a problem of prime importance. The elimination of the tick will give a very great impetus to dairying in the South, where this industry will aid in placing agriculture on a more stable and profitable basis.

The Cost of Milk Production.

A decade ago there were but few figures regarding the cost of producing milk. At that time dairying was developing very rapidly in many sections of the country, and little thought was given to cost of production. The chief competition among dairy farmers in some sections seemed to be a desire to report the lowest production cost of the com-This in itself was very commendable, but many dairymen overlooked some of the costs entirely, while other costs were estimated very much too low. Thus, it was common at the time to hear, for instance, that manure paid for labor and the calf paid the cost of keeping the bull. Because of the increasing building costs, barns appreciated in value, and hence no charge for shelter was thought necessary. Some also thought of only "out of pocket" cost, and therefore did not believe it necessary to include the value of unpaid labor nor home-grown feeds.

With the price upheaval in 1917 and 1918 things suddenly took a different turn, and farmers, as well as some others, went to the other extreme in their cost computations. Both extremes were perhaps equally detrimental to permanent dairy progress, for the one led to dangerous contentment, while the other discouraged and made many despondent who were perhaps really making satisfactory profits. Indirectly the latter extreme did, however, produce some wholesome results, in that it aroused an honest desire in both producers and consumers to know the real facts. This stimulated the investigations on dairy costs in most of the producing centers of the country.

The results of a few representative investigations carried out by the Department of Agriculture are shown in Table 3, while Table 4 gives the unit requirements of feeds and labor. These figures are based on carefully kept records. The person who is thinking of entering the dairy business ought to find these figures valuable as a basis for making estimates of probable costs, while the farmer who has records for his own farm will find these averages useful as measuring sticks for determining his own efficiency.

Table 3.— Cost of producing 100 pounds of milk in 1921.

Item	Ver- mont.	Dela- ware	Louis- iana.			Wash- .rgton
Average yearly milk production per cow						
pounds.	5,252	5,439	3, 106	6,937	5, 823	7,833
Butter fat in milkper cent	3 9	3.6	4.4	3.8	37	37
Feed:					-	
Grain	\$0.40	\$0.67	\$1.06	\$0.45	\$9.23	\$0, 23
Hauling and grinding grain	01	.01	. 07	.02	.01	01
Hay and other dry 10ughage	. 53	. 29	.17	.30	.31	.28
Silage and other succulent roughage	.41	.17	. 14	. 25	.09	.19
Bedding	.01	.03	.0004	.02	.01	.01
Pasture	11	.27	.19	. 15	.38	29
Labor:					•	
Human	.41	. 34	.47	. 30	.33	. X
Horse	.06	0.5	.07	.02	.01	.01
Overhead and other costs	.48	1.01	.98	.39	. 88	. 46
Total cost	2.72	2 84	3.11	1.90	2, 25	1. 83

Table 3 shows that the chief costs of producing milk are feed and labor, these two items making up usually about 70 to 80 per cent of the total costs. Furthermore, these factors are of special interest because they are under direct control of the dairyman, which makes them the chief means of increasing or decreasing the yearly output to whatever combination will return the biggest profits.

Total "other costs" which include interest, depreciation, taxes, insurance, upkeep, and repairs on buildings, similar items on equipment, and interest, taxes, depreciation, and insurance on cattle, are based on more or less permanent investments and therefore remain more constant year after year. "Other costs" per cow or per 100 pounds of milk will increase or decrease as the number of cows kept or the pounds of milk produced are increased or decreased.

These facts have resulted in what is known as "milk-cost formulas" which consist of the average pounds for each of the three types of feed used, namely, hay, grain, and silage, and also the hours of man labor per 100 pounds of milk produced. Table 5 illustrates the use of such formulas for computing costs of producing 100 pounds

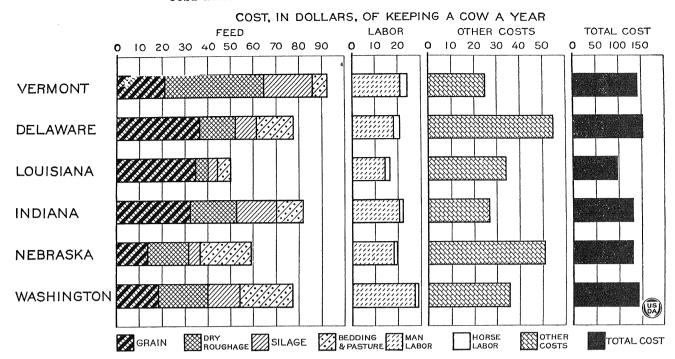


Fig 55.—The length of the bars represents the cost in dollars of keeping one cow for the year 1921 in six different States. The data on which these graphs are based are contained in Department Bulletins 923, 1,101, 955, 858, 972, and 919. The unit requirements contained in these bulletins have been applied to 1921 on the basis of the Department's figures for feed and labor values in the various States for that year.

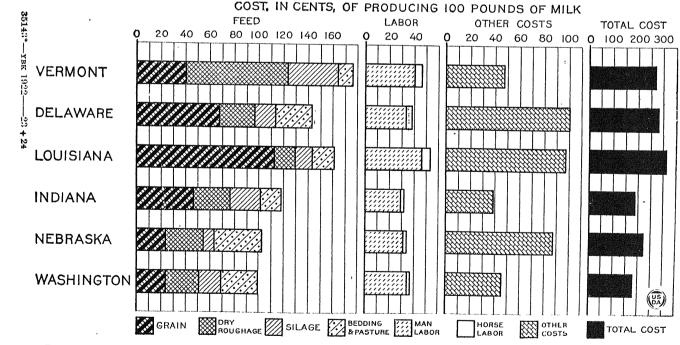


Fig. 56.—The figure represents the cost of producing 100 pounds of milk in the six States shown in Fig. 55, and was compiled from the same sources. It is of interest to note that some States, where the cost of keeping a cow was low, had a high cost per 100 pounds of milk. This was due to low production per cow.

Table 4.—Unit requirements for producing 100 pounds of milk.

1 44	Vermont.	nont.	Dela	Delaware.	Louisiana	lana	Indiana	ana	Nebraska	aska	Washington	ngton
		5,252		5,439		3,106		6,937		5,823		7,833
Winter. 33-1		Winter. Summer. 8.7	Winter 53.7	Summer 15.5	Winter 72. 4	Summer 52 5	Winter 38.6	Summer. 20.0	Winter 41.2	Summer 11 0	Winter 29 4	Summer 5 2
129.9		18.7	114.2	6 5	38 3	1 0	66.8	27.4	95 3	51.2	92.9	7.5
191 3		27 8	91.0	10 3	78.4	8,1	147.6	60.1	93 6	29 3	143 3	40 4
\$0.02		\$0.005	\$0 01	\$0.002	\$0 095	\$0.05	\$0 03	\$0 014	\$0 016	\$0 004	\$0 023	\$0.003
11.2	- ;		17.9	3 4	0 3		20 3		11 1	0.5	0 6	0 1
:		1 0 10	\$0.06	\$0 480	\$0 155	\$0 197		10 04	\$0 108	\$0 653		1 0 025
2.7		2.0	2.6	2 5	5.0	5 0	2 5	2 2	2 0	1.9	1 9	1 3
9.		4.	.5	4.	6.		က	.2	90.	80.	10.	. 015
\$0.555		\$0 425	81.030	86 03	\$1 22	\$0 803	\$0 385	\$0 303	£0 S69	50 889	\$0 576	\$0.406
-	1	-	-	-	_						_	

1 Of an acre. The expense of keeping dry cows was charged to the season in which the dry period occurred.

Tatle 5.—Unit cost of producing 100 pounds of milk

Item	Amount	Estimated rate	Unit co-
Grain	Pounds. 38.6	Per ton. \$30	\$0.58
Нау	66.8	15	.50
Sılage	147.6	7	.41
Total feed			1.52
Labor	Hours. 2.5	Per hour. .20	.50
Total feed and labor			2.02 .50
Total cost.		•••••	2, 52

Because of the fact that so much of the costs entering into milk production are noncash, there have been a great many differences of opinion as to how these costs should be valued and just which of them should be included, but this has now, generally speaking, been fairly well worked out. At present perhaps the greatest danger lies in faulty interpretation of milk-cost data. So far as the consumer is concerned, he will undoubtedly have to pay a price for milk which will give the farmer a fair return for all the factors included in these tables: for if he does not, the farmer will eventually turn to other lines of production.

Before the individual farmer can make a correct decision as to whether he is making or losing money in any particular year, he should give close study to the differences in the character of the various cost items. For instance, on most farms there are at least three distinct types of feeds used: First, purchased; second, marketable home-grown feeds; and third, noncommercial, consisting largely of permanent pasture and by-products of other enterprises like straw, corn stover, damaged hay, beet tops, etc. The first two represent actual money and are therefore costs that must be covered by the return before dairy profits begin, but the third group is of a radically different nature. Of course, most of the items in this group could perhaps be sold, or, in the case of pasture, rented out, but generally they receive their value only by being used for live stock on the farm

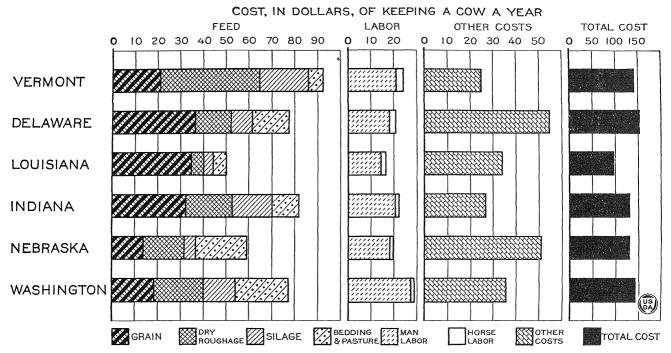


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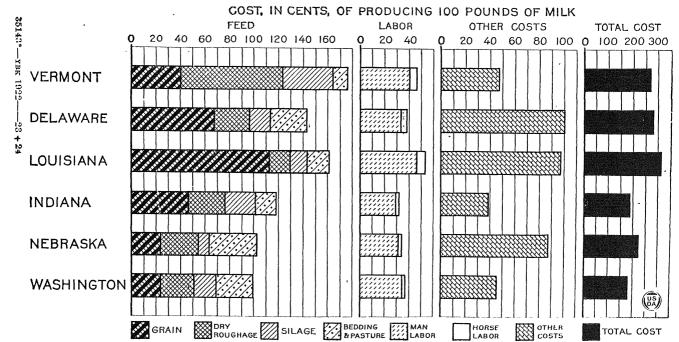


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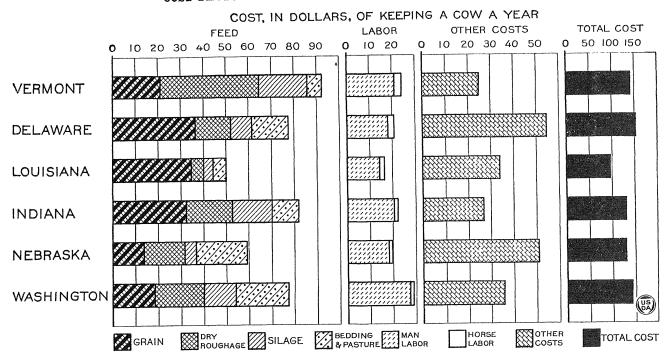


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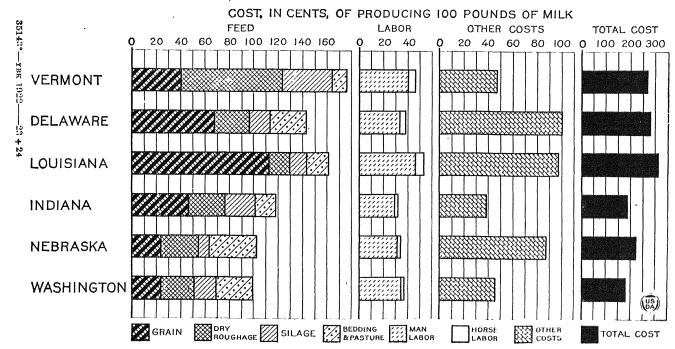


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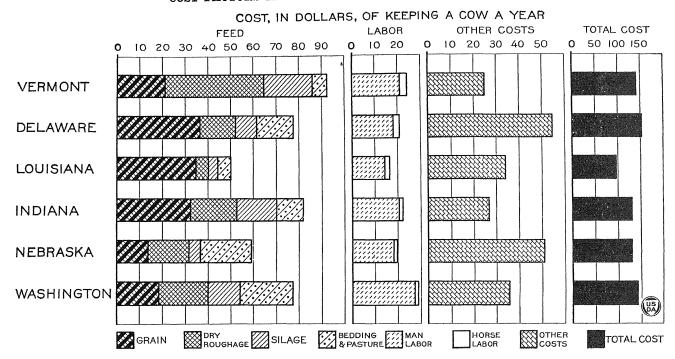


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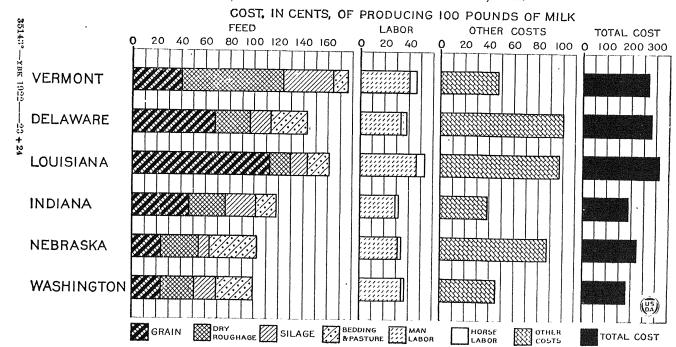


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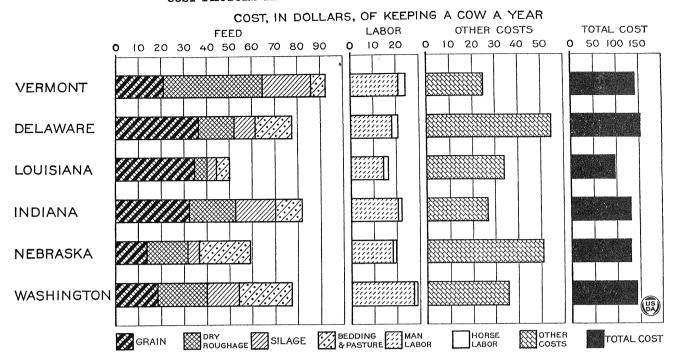


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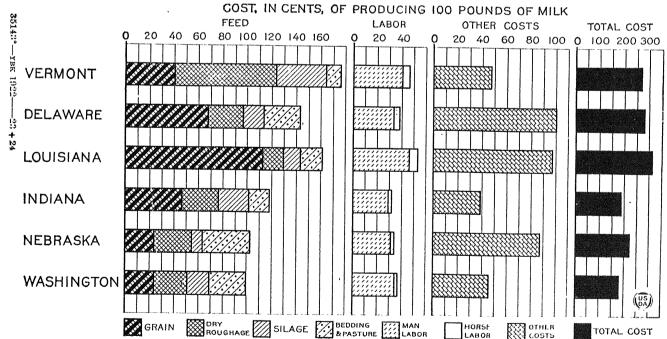


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TOTAL COST (SA) FOTAL COST 50 100 150 0 OTHER 50 COST, IN DOLLARS, OF KEEPING A COW A YEAR OTHER COSTS 20 30 40 COST FACTORS IN SIX MARKET-MILK SECTIONS, 1921. HORSE LABOR 9 0 BEDDING (777) MAN & PASTURE (777) LABOR LABOR 10 20 0 90 M DRY SILAGE SILAGE 80 2 9 FEED 20 40 30 20 GRAIN 9 WASHINGTON DELAWARE LOUISIANA NEBRASKA VERMONT INDIANA

Fig. 55.—The length of the bars represents the cost in dollars of keeping one cow for the year 1921 in six different States. The data on which these graphs are based are contained in Department Bulletins 923, 1,101, 955, 858, 972, and 919. The unit requirements contained in these bulletins have been applied to 1921 on the basis of the Department's figures for feed and labor values in the yarlous States for that year.

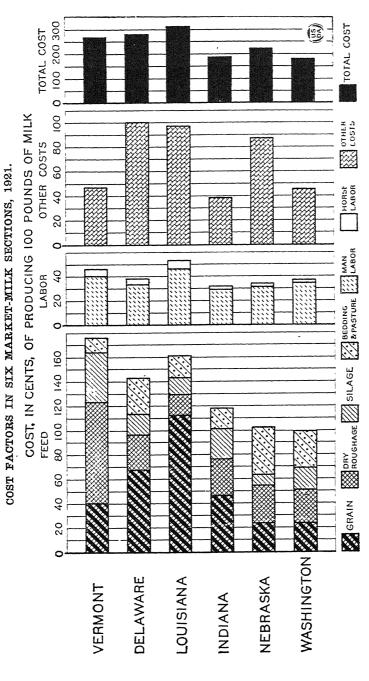


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Table 4.—Unit requirements for producing 100 pounds of milk.

Item	Veri	Vermont	Dela	Delaware	Louisiana	iana	Indiana	ana.	Nebiaska	aska	Washington	ngton
Average yearly milk production per cowpounds Butter fat in milkper cent		5, 252 3.9		5,439 3.6		3,106		6,937	AT MODIFICATION OF THE PROPERTY OF THE PROPERT	3 7 8		7,833
Feed Grainpounds	W'inter. 33 1	Winter. Summer. 87	W'nnter 53. 7	Summer. 15. 5	Winter 72.4	Summer 52. 5	W'nnter. 38, 6	Winter. Summer 38,6 20 0	Winter 41.2	Summer 11 0	II mer 29 1	Summer. 5 2
Slage and other succulor	129 9	18.7	114 2	6.5	38 3	1 0	86 8	27.4	95 3	51.2	92. 9	7.5
	191 3	27.8	91.0	10 3	78.4	8.1	117 6	60.1	93 6	29 3	163 3	10. 1
trates	\$0.02	\$0 002	\$0 01	\$0 003	\$0.095	\$0.05	\$0.03	\$0.011	\$0 016	\$0 001	\$0,022	50,003
Beddingpounds	11 2	:	17.9	3 4	0.3		20 3		11 1	0.5	0 6	0 1
Pasture.		1 0 10	\$0.06	\$0.480	\$0 155	\$0.197		1 0.04	\$0.108	SO 673		1 0 025
Labor: Himan hours	2.2	2.0	2.6	50	rc cc	0,10	6	:		0	0	~
Horse		4.			6.	2.	i	. 63	8	. 8	. 5	.015
Overhead and other costs	\$0.555	£0 425	£1 030	S0 03	\$1.22	\$0 803	\$0 385	£0 343	80 869	688 05	\$0.576	\$0,406

¹ Of an **a**cre.

The expense of keeping dry cows was charged to the season in which the dry period occurred.

Tate 5.—Unit cost of producing 100 pounds of milk.

Rem	Amount	l'stimited fa'e	Unit cost
Grain	35.6	Pertin.	\$0. 55
Hay Silage		1.5	. W)
Total feed			1.52
Labor		Pr long .20	.79
Total feed and labor			2.02
Total cost			2, 72

Because of the fact that so much of the costs entering into milk production are noncash, there have been a great many differences of opinion as to how these costs should be valued and just which of them should be included, but this has now, generally speaking, been fairly well worked out. At present perhaps the greatest danger lies in faulty interpretation of milk-cost data. So far as the consumer is concerned, he will undoubtedly have to pay a price for milk which will give the farmer a fair return for all the factors included in these tables; for if he does not, the farmer will eventually turn to other lines of production.

Before the individual farmer can make a correct decision as to whether he is making or losing money in any particular year, he should give close study to the differences in the character of the various cost items. For instance, on most farms there are at least three distinct types of feeds used: First, purchased; second, marketable home-grown feeds; and third, noncommercial, consisting largely of permanent pasture and by-products of other enterprises like straw, corn stover, damaged hay, beet tops, etc. The first two represent actual money and are therefore costs that must be covered by the return before dairy profits begin, but the third group is of a radically different nature. Of course, most of the items in this group could perhaps be sold, or, in the case of pasture, rented out, but generally they receive their value only by being used for live stock on the farm

where they are produced, and hence any return for them over and above the probable return by the next alternative might logically be considered profits.

The labor demand of dairying is strikingly different from that of other enterprises, and because it is so different this matter requires careful attention, for it undoubtedly explains the presence or absence of this enterprise on many farms. Generally speaking, a dairy herd requires a larger amount of labor than any other class of live stock, and com-

DISTRIBUTION OF LABOR ON A DAIRY HERD.

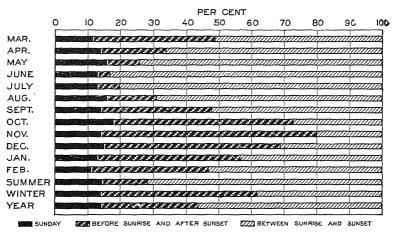


Fig. 57.—Much of the labor on a dairy farm is performed on Sundays and before sunrise and after sunset. This is especially true during the winter months when the days are short. Only daylight labor in the dairy can be considered as competing with tarm labor in other branches of agriculture. Thus dairying furnishes an opportunity to convert much unproductive into productive time.

pared with crops its labor demand differs greatly in the time of the day the work has to be done and also because so large a share of the labor can be made to come during the slack periods. This latter point has, however, been discussed so often that it need not be further considered here, but the distribution within the day has often been passed unnoticed. Investigations have thrown some light on this phase of the dairy labor question. The important point brought out is that almost half of the dairy work came at a time when no other work would have been performed. In

cost accounting all this time is charged at the same rate as other labor. This is undoubtedly the best method to follow in general research, for it involves one of those questions which can not be definitely answered by absolute figures, but rather through careful interpretation of the results. Almost every farmer, however, is likely to put a different value on this part of the labor.

Those who are looking for a combination of enterprises that will make available the largest amount of time for doing productive work will undoubtedly make dairying a part of their organization. These farmers may, therefore, be willing to accept even a low rate for this labor, because they consider that any return for it is clear gain. Others, however, who object to working long hours and to being tied down throughout the year will ask a higher return for this part of the dairy labor if they are to remain in the business. Because of these opposite views the chances are that the average rate resulting from the combined opinions of all producers is very near to the average for all labor, and so far as its influence on price is concerned it may be of little importance; but, even so, the main fact still remains that dairving should be credited with this distinguishing character, which makes it possible for the individual to turn 'unprofitable time into profitable employment.

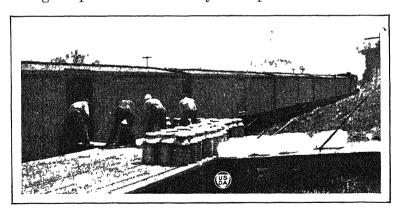
Marketing Dairy Products.

When dairymen were able to sell their milk or butter and cheese directly to ultimate consumers, the problem of marketing dairy products was not a complex one. But when it is considered that now the milk supply of the New York City consumer comes daily from a northern New York or Vermont dairy farm; that the Wisconsin dairyman markets his milk in the form of cheese through some retail grocery store, which may be in Texas; and that at certain times of the year Pacific coast butter may be found in Atlantic coast markets, some idea of the changes which have necessarily taken place in marketing methods may be gained.

Along with the growth of cities has been a growth in the size and extent of the dairy industry, and the manifold changes which have taken place in marketing and dis-

tribution have not occurred without the introduction of many difficult problems. Aside from the fact that the marketing of an increased volume of any product introduces a necessity for improved facilities, there have been added problems in the marketing of dairy products on the present large scale.

Many dairy products are highly perishable. Milk shipped great distances must be served to the city consumer daily in a fresh and sweet condition if it is to be used at all. This means not only cleanliness in production but speed and the maintenance of low temperatures throughout the entire journey from the farm to the consumer's door. Ice cream requires special handling and constant attention for successful marketing. Butter and cheese are less perishable, but the great distances which these products are frequently shipped and the long periods they are held make it necessary to provide adequate refrigeration in order that they may reach the consumer in a suitable condition. But perishability and distance between producer and consumer are not the only problems which have had to be faced in marketing the products of the dairy. The process has been fur-



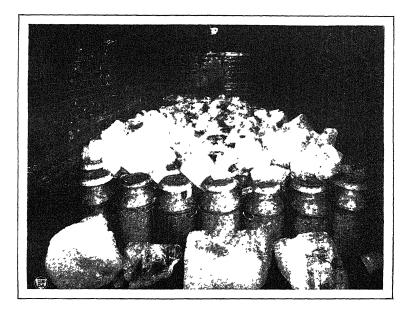
LOADING A MILK TRAIN AT A COUNTRY PLANT.

Fig 58.—The milk supply of many of our large cities comes from distant producing sections. Much of this milk is handled through country stations where cooling or pasteurizing and sometimes bottling takes place. From these country stations the milk is loaded into refrigerator cars for quick shipment to the city. Part of the milk supply of New York City is shipped 400 miles, and solid milk trains on fast schedules are operated by railroads for handling these shipments.

ther complicated by variation in seasonal production. This has meant surpluses and shortages, with the resulting influences on prices. A discussion of some of these fundamental problems and the progress made in their solution follows.

Transportation by Rail.

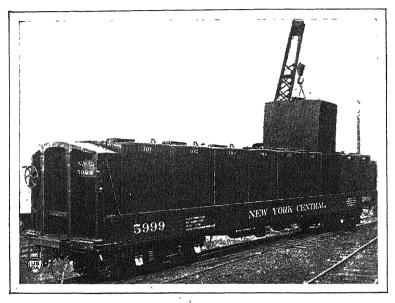
Transportation has been a factor in marketing dairy products since the establishment of the first commercial



COMMON METHOD OF MAINTAINING LOW TEMPERATURES IN RAIL TRANSPORTATION OF MILK.

Fig. 59.—On account of its perishability milk must be kept cold from the time it is produced until it reaches the consumer. When long-distance shipments are made in warm weather, one method of accomplishing this is by placing blocks of ice on top of the containers in the car. The use of ice in this manner, and the fact that shipments are made in refrigerator cars, results in the maintaining of low temperatures.

creameries and cheese factories, but increasing demand for milk by rapidly growing cities and the development of distant producing territories have revolutionized transportation methods. The transportation requirements of milk are more difficult to meet than those of almost any other commodity. Produced over widely distributed areas, often in small quantities, milk must be transported daily to the very doorstep of the city consumer. The service must be regular, and it must be rapid. Delays mean a deteriorated product.



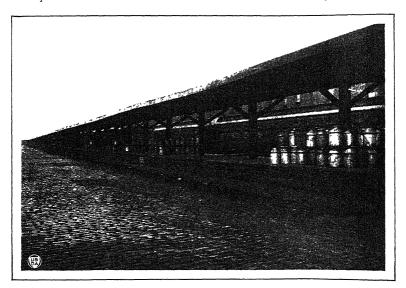
TANKS FOR SHIPMENT OF MILK BY RAILROAD.

Fig. 60.—The inethods of handling milk are constantly undergoing changes. One of the latest developments in the rail transportation of milk is the use of large porcelain or glass lined tanks. While this method may be more or less in the experimental stage, it gives promise of being a satisfactory way of handling shipments, especially between country receiving stations and city plants. The separate compartments of this car may be removed and may be placed on trucks for final haul to the place desired.

Furthermore, milk must be kept cool or it will sour quickly and become unsuitable for use as fluid milk. Maintenance of low temperatures in transit is a fundamental requirement, and is best accomplished by the use of special refrigerator cars which are usually provided on the railroads carrying milk to the larger cities. A common method of keeping the milk cold in the cars is by means of a refrigerated milk car containing cans of milk covered with blocks of ice.

A later development in milk transportation on a large scale is the tank car. These tanks are either inclosed in cars or are separate units, several to the car, which can be removed by derrick and placed on trucks for hauling to the city plant. The principle of a vacuum bottle has been applied to some of the tanks, although merely a steel tank, glass or porcelain lined, is the more common form. The tank car gives a promise of becoming quite satisfactory for handling such milk shipments as those which are made from country receiving stations to city plants. Where the quantity of milk transported is small and the shipments of necessity are made in ordinary cars different precautions have to be taken, one of the commonest of which is the use of insulated can jackets. Improvement in the facilities for handling milk has made longer hauls possible.

Refrigerator cars.—The most important sections now producing manufactured dairy products, especially butter and cheese, are located in the Middle West and are distant from the large consuming markets. Both butter and cheese are less perishable than milk, and hence the necessity of daily



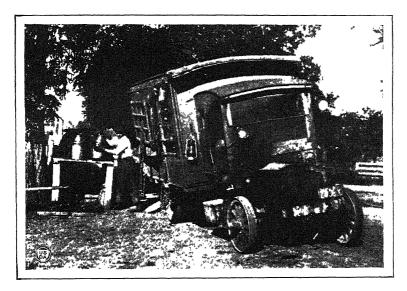
UNLOADING PLATFORM AT A LARGE MILK TERMINAL.

Fig. 61.—The supplying of milk to city consumers 365 days in the year presents to milk distributors several distinct problems. One of the most important of these is promptness in handling. The unloading platform shown here is a milk terminal in one of the large cities. Thousands of quarts of milk pass over this platform daily, going to various distributors, whose wagons or trucks quickly transport it to the city plant, where final preparation for city delivery is made. The milk platform is cleared daily, for milk freight can not be held over.

delivery to the consumer does not exist. But the long distances which these products are shipped require that protection in shipping be provided. In meeting this condition not only has the refrigerator car been utilized but fast freight schedules have been established, so that the movement is reasonably rapid for freight service. In the highly developed dairy sections regular freight schedules often provide for pick-up refrigerator cars, which, for example, may move a certain day each week, and which are loaded at local stations, later moving in fast freight trains to the large mar-Certain creamery organizations which are favorably located to take advantage of such a plan are now concentrating less-than-carload shipments into car lots, thereby effecting the saving in freight charges which the car-lot rate offers. The warehouse system of handling cheese in Wisconsin also results in a similar concentration of cheese at various points throughout the cheese-producing sections, although there the concentrating is done by individual dealers as well as by factories cooperating through their own organization. In severe winter weather it sometimes becomes necessary for heat to be provided in cars carrying cheese, on account of the danger from freezing.

Transportation by Highways.

Highways are used in the marketing of almost every gallon of milk consumed. Whatever other means of transportation may be utilized between the point of production and the consumer, the highway is nearly always the method of transportation from the producer to the first point of concentration. This is true, whatever form of processing the milk goes through before it is ready for consumption. the case of milk delivered to local creameries or cheese factories the movement is almost exclusively over the highway. In the case of milk delivered to city creameries, milk condenseries, and city milk distributors the amounts carried over the highways depend upon the area of the district from which the milk supply is drawn and upon the condition of the highways. Many of our larger cities are now receiving the greater portion of their milk supply exclusively over the highways without intermediate rail shipment. Cincinnati, Ohio, with a daily consumption of 190,000 quarts, receives less than 3 per cent of its supply by rail shipment. Kansas City, Mo., with a daily consumption of 133,000 quarts, receives about 75 per cent of its supply by trucks and wagons. Atlanta, Ga., receives about 90 per cent, and Indianapolis, Ind., about 60 per cent of the daily supply by trucks. Milwaukee, Wis., receives about 65 per cent of its daily 120,000 quarts by trucks.



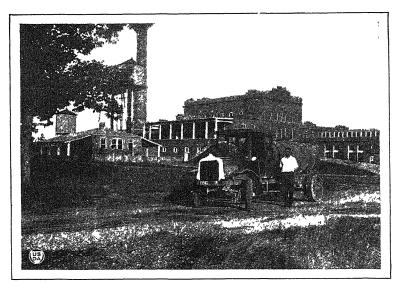
COLLECTION OF CREAM BY TRUCK.

Fig. 62.—Automobile trucks and good roads have done much to remove distance between the dairy farm and the creamery. Quick transportation not only means less time on the road but also more frequent delivery, both of which are good for the cream.

Before the advent of the motor truck and good roads, it was necessary with horse-drawn equipment and unimproved highways to use rail transportation for distances over several miles. However, this range has now been considerably increased. Cost figures for milk collection around Kansas City and Minneapolis show that for a 30-mile haul the rate for shipment by truck is less than one-half the cost of rail shipment plus the cost of bringing milk to the railway station and delivering it from the station to the milk distributor. Similar figures for Detroit show that at the pres-

ent time a dairyman 60 miles from the city can ship by truck for approximately the same rate as that charged by the railroads.

On longer hauls the costs of collection are secondary in importance to the time required for collection and to the condition of the milk on arrival. A case is cited from California where it was found profitable to ship milk 134 miles by truck on account of the better condition of the product



TANK TRUCK DELIVERY OF MILK TO CONDENSARY.

Fig. 63.—Porcelain or glass lined tanks on auto trucks are being successfully used for long and short hauls to milk plants and condensaries. These replace the truck loaded with smaller containers.

on arrival. The greatest difficulties of long-distance milk transportation lie in spoilage due to overheating and churning in transit, caused by hot weather and continued jolting over the road. It has been found that the use of insulated tanks mounted on trucks has to some extent eliminated these difficulties. These tank trucks are quite widely used at the present time. Churning is prevented when the tanks are loaded to capacity, and experiments have shown that on trips on hot days the rise in temperature is usually less than 1° F. per hour.

To the farmer and dairyman improved highways and motor transportation have meant not only a lower marketing cost for milk, but also the extension of the possible marketing area. The experience of eastern dairymen has shown that with the use of trucks the average distance to market can be increased considerably, because the farmer is now in a position to take advantage of markets which in the past were often restricted to small groups in favorable locations.

The development of motor-truck transportation offers an additional distinct advantage in many localities to both the dairymen in the country and the milk distributor or manufacturer of dairy products in the city. When railroads were the sole means of transportation, there was hauling from the farm to the shipping station, and again from the city railroad station to the city plant. It is now common for the truck from the city plant to call at the farmer's gate. Not only is the farmer's time available for other purposes but the terminal charges and delays are also eliminated.

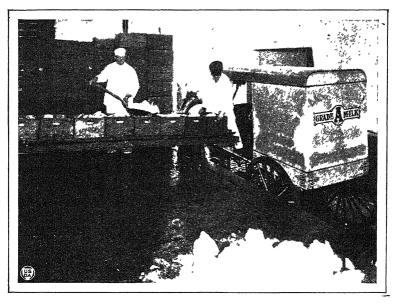
The value of highway transportation as a means of marketing milk can not be adequately measured in terms of money. It is essential to the furnishing of a necessity of life to many millions of people and as such is beyond any accurate measure of value that can be devised. Every improvement in the highway itself or in the vehicle used for transportation results not only in a great saving due to reduction of marketing costs but also in supplying more and better milk to the millions of people living in the larger cities.

Market Distribution of Dairy Products.

It is estimated that approximately 45 per cent of the total milk production of the United States is used as fluid milk for household purposes. This, of course, includes the vast quantities of market milk brought into towns and cities throughout the country. With fluid milk so generally used it is probable that the average consumer is more familiar with the channels of milk distribution than with those which manufactured products follow. The journey from the dairy farm to the consumer's door involves many problems, however, and these increase in number and scope as the distance between the two becomes greater. Except for the larger cities, local or near-by production is adequate for city milk

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requirements, and the pasteurizing, cooling, bottling, or such other processing as may occur are done in the city plant. Milk going to the larger cities, however, is frequently handled through receiving stations which are conveniently located out in the country producing sections, and from these the milk moves to the city in refrigerator cars. While milk distribution in the small city is more or less simple, it is obvious that only through capable management



ICING: ONE OF THE COSTS OF RETAILING MILK.

Fig. 64.—The city housewife often overlooks the many processes and costs which enter into the daily delivery to her doorstep of a bottle of cold, sweet milk. Here is but one of them. It is one of the elements of cost which is covered in the spread between what the producer gets and what the consumer pays.

and a highly complicated system of distribution can the large city be supplied with fresh milk daily at all seasons and through all kinds of weather.

Milk distribution involves numerous items of cost which go to increase the spread between producer and consumer. Pasteurization is quite generally followed in the more important cities of the country. Furthermore, the use of glass milk bottles for delivery is almost universal and consumers are usually provided with an adequate delivery service. City milk distribution expenses include cost of raw material, cost of getting raw material to the plant, cost of plant operation, delivery expenses, administrative expenses, loss, and shrinkage. These vary with different dealers and in different cities. Local selling prices are influenced by competition, and competition is usually keen enough so that the same price rules for the same grade of milk. In cities having organized health departments the consumer is protected in the matter of quality by health-department regulations. so that price reductions on recognized grades of milk do not occur through the practice of dealers lowering standards for these grades. Cash-and-carry stores usually sell at lower prices because the items of delivery, credit, and loss of bottles are eliminated.

Market distribution of creamery butter.—Dairy farms from which the product is marketed through creameries or butter-manufacturing plants generally represent a somewhat different system of farming from that followed on farms where the whole milk is sold, in that commonly, as now practiced, such farms market cream only, the skim milk being kept for feeding young stock, hogs, or poultry. There are, of course, quite a number of creameries which receive whole milk, but even in these cases skim milk is usually taken back to the dairy farms and utilized as mentioned.

Three general types of creameries are to be found in the United States. First is the cooperative creamery, usually a local enterprise depending upon local production for supplies, although several cooperative centralizer creameries are now in operation. It may be noted, however, that some creameries whose names indicate that they are cooperative are not cooperative under a literal interpretation of the term. Strictly cooperative creameries operate on the principle of returning all income to producers above that required for operating expenses, depreciation, reserve, etc. The second type is the local creamery owned by private interests, which usually pays dairymen an agreed price in relation to some recognized current market quotation. This type of creamery procures its supplies for the most part locally. When a larger territory is covered and shipments from a distance are received creameries are commonly referred to as centralizers, and there are throughout the Middle West a large number of plants of this type, some of which have enormous outputs and receive cream from long distances. These creameries obtain cream by direct shipment from individual dairymen and through local cream-buying stations, which serve as collecting and shipping agencies. It is the common practice to do the weighing and testing at these stations, and quite frequently payments are handled there also. Creameries follow different plans of paying for cream, some paying monthly, some twice a month, and others daily. Cooperative creameries, of course, do not make payments until returns for products sold are received.

There are various channels of trade through which butter may pass from producer to consumer. The general custom of country creameries in shipping butter to the larger markets is to consign to a receiver or to contract with the receiver for the butter on the basis of the market quotation. It is a common practice for creameries to draw a sight draft against such consignees, through which an advance of 15 to 25 cents a pound is secured. Often receivers send out, to producing sections, field representatives who go among creameries and solicit their output. Local demand offers some outlet to local creameries, although with many creameries which are in small towns and villages this demand absorbs only a small fraction of the total butter made. Butter going to the larger markets is for the most part packed in bulk in tubs or cubes.

Receivers in the markets may be wholesalers or jobbers, or both. In the largest markets wholesalers and jobbers are usually separate dealers, while in the smaller markets nearly all wholesale receivers also do a jobbing business, supplying retail stores, hotels, restaurants, etc. The wholesalers' business consists of car lot and large less-than-car lot sales to distributors who handle a jobbing business.

Many of the larger creameries have developed private brands and distribute their butter directly to the retailer, maintaining branch distributing houses or contracting with distributing agents to handle certain territory. Many of the extensively advertised brands are handled in this way. Vast quantities of butter are also handled under brands by the meat-packing companies through their local branch houses.

Market distribution of American cheese.—American-type cheese is made from fresh milk, and for this reason cheese factories are local establishments which depend on local production for their supply. These factories may be cooperative or privately owned, and, depending upon which type they are, the method of paying for milk is similar to that followed by creameries in paying for cream. On account of different market requirements, several different styles of cheese are found on the market. Style refers to the size and shape of the cheese and not to the type.

Cheese is usually sold outright by factories to near-by dealers, who may be affiliated with a large distributing agency. Wisconsin and New York are the two large cheese-producing States, and in both the warehouse system is followed. Cheese is shipped from the factories to warehouses scattered through the principal cheese sections, where weighing, paraffining, and boxing take place. Prices to the factory and to the dealers' customers are usually based on the current quotations established as a result of trading on cheese boards which are mentioned later.

Immediately after the cheese-board meetings, independent dealers wire their selling prices to customers, such as wholesale grocers, wholesale distributors of dairy products, exporters, large retail buyers, etc. If prices are satisfactory, orders are received, and these are filled out of the supply on hand or the incoming cheese for the week. Competition is so keen among cheese dealers that business is done on very small margins. Cheese bought may be shipped direct to the customer, or may at his direction be placed in storage, either at the place where bought or at some central point. Dealers who are affiliated with large distributors, such as the packers, handle their current receipts on a brokerage basis with an outlet always at hand. In the large markets there are cheese wholesalers and jobbers who buy either through their own country representatives or from independent dealers. tailers obtain their cheese either from the jobber or the wholesalers. Due to the small quantities of cheese retailed by the average grocer and the resulting heavy shrinkage and wastage, some preference is being shown for a 5-pound cheese, which helps eliminate some of these losses.

Other types of cheese.—The system just referred to is not followed in the distribution of other types of cheese. The foreign types, such as Swiss and Limburger, are usually handled in the larger markets by dealers who specialize in such types, and these dealers may have direct connections with country buyers or may maintain their own branch in the country. Such dealers are jobbers as well as wholesalers, supplying grocers, delicatessen stores, hotels, cafés, etc. They handle both domestic and imported goods of the foreign type, as well as domestic soft cheeses.

Market distribution of condensed and evaporated milk.— Condensed and evaporated milk in bulk form for use principally by ice-cream manufacturers and bakers is made in numerous plants throughout the country, some of which are comparatively small. This class of goods is not placed in sealed tins, but is handled in larger containers. It is often found that firms using these products have standing orders for the regular delivery of certain quantities for current use; and while this ordinarily is used immediately, reserve stock is frequently carried in cold storage. Large users of bulk condensed and evaporated milk usually have their own manufacturing equipment.

Most of the condensed and evaporated milk produced in the United States, however, is put on the market in sealed tins, packed in wooden or fiber cases. All goods of this class are sold under a brand. Practically every manufacturer has a standard brand, but numerous other brands are also on the market. These may represent private brands of distributors such as wholesale grocers, or even large retailers, such as chain stores, which contract with manufacturers to pack goods under their own advertised label or trade-mark.

Large manufacturers of canned milk maintain their own sales organization, with branches and stocks in warehouses in the principal distributing centers, especially export points, but smaller manufacturers frequently market their goods through local brokers at various important trade centers. The wholesale grocer is a big factor in the distribution of the product.

Domestic demand for condensed and evaporated milk is increasing, but the relative ease of securing fresh milk has

retarded this demand. Good domestic demand is found in places near which dairying is not followed, such as mining and lumber camps and in arid sections, although these outlets are limited. The fact that the products may be bought in practically every grocery store accounts in the aggregate for vast quantities being used in households even where fresh milk is obtainable.

Market distribution of other dairy products.—Because of perishability and the necessity for frequent icing, the distribution of ice cream is limited to local territory or to territory which may be reached by rapid transit without delay. Marketing of ice cream is usually direct from manufacturer to retailer or from manufacturer to consumer. In the larger cities there are concerns which manufacture ice cream on a more or less large scale and whose outlets include various retail establishments, such as confectionery stores, soda fountains, restaurants, cafés, etc., also family trade. Many retailers, however, produce their own ice cream. Ice-cream distribution to retail trade involves considerable service, for the product spoils rapidly if not kept properly iced. Frequently manufacturers provide this service for customers, also furnishing refrigerated cabinets for holding the product under proper conditions.

Powdered milk is one of the newer manufactured dairy products. Outlets for powdered milk are being developed, but so far the greatest proportion has been used by bakers, confectioners, and ice-cream manufacturers. This product is usually made from skim milk. Some powdered whole milk is made; but the higher prices which must be secured, as well as the poorer keeping quality, have limited its use.

The drying of skim milk represents the utilization of a valuable by-product. Buttermilk is also dried, this product being used extensively for hog and poultry feeding. Both of these products are relatively new, and channels of distribution have not been fully developed. Cost of equipment has limited manufacture to a relatively small number of firms, and as a result the selling is done either through firm representatives or through brokers.

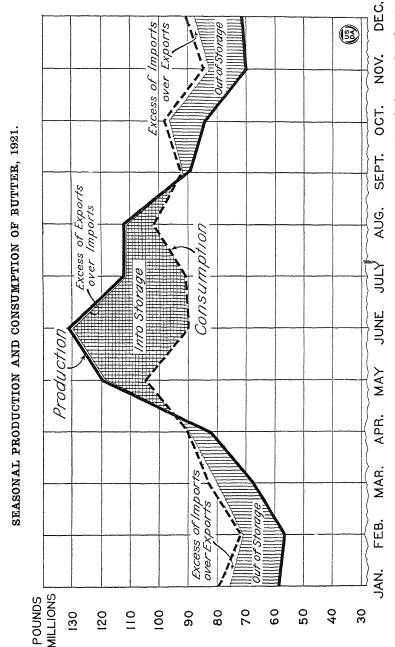


Fig. 65.—The seasonal supply and demand for butter are not the same. Consumptive requirements vary through the year, but they do not fluctuate so much as production. The peak of creamery-butter production is ordinarily reached in June, at which time there is 1 heavy movement of butter into cold-stotage warehouses for use during that period of the year when current production is not sufficient to provide for current needs. During 1921 imports helped to relieve the shortages which occurred at the beginning and end of the year, while exports slightly reduced the surplus when domestic production was heaviest.

Cold-Storage Warehousing.

Without a means of providing for a more even flow of dairy products into consumptive channels throughout the year there would be surpluses during flush seasons and shortages during months when dairy production is lowest. Since dairy products constitute important items in the diet of the average person, such a condition would be indeed unfortunate, regardless of the influence which it might exert upon prices. Cold-storage warehousing, therefore, offers obvious advantages to the industry and to the consuming public.

Extensive cold-storage facilities are used in the distribution of creamery butter. Consumptive demand is not constant. varying according to price levels, season, weather, and other influences, but it is a more constant factor than butter production, and normally is greatly in excess of current

MONTHLY DISTRIBUTION OF TOTAL BUTTER PRODUCTION AND RECEIPTS AT NEW YORK, CHICAGO, PHILADEL-PHIA AND BOSTON, 1921.

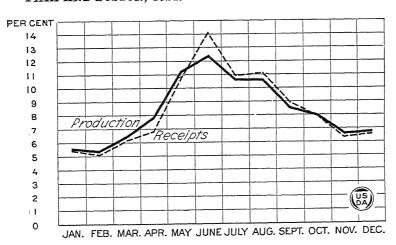


Fig. 66.—Creameries, as a rule, ship their butter to market very soon after it is made. The result is that receipts on the large wholesale markets are heavy or light depending upon how much butter is being made in the country. During the storing season in 1921 there was a heavier movement to the four large markets in relation to production than during other parts of the year. Over half of the butter stored in the entire United States is stored in warehouses located in these principal centers of population.

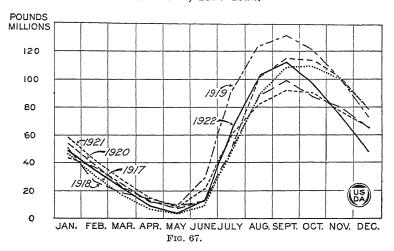
production. While it is impossible to measure price changes which would occur if butter were not stored, it is more than likely that violent fluctuations would result.

The movement of butter and cheese into storage follows closely seasonal increases in production. During the months of May, June, July, and August, stocks are being continually added to, but the heaviest increases normally occur during June. Seasonal changes in storage holdings are striking, and both the inward as well as the outward movements occur about the same periods each year. The peak of holding occurs usually in September, and stocks are normally lowest about May 1. Butter and cheese which are placed in storage during the month of June are in greatest demand later in the season. Being produced during the flush season, when conditions are most favorable for highest quality, such goods keep better in storage and are as a result more suitable to the trade when taken out of storage and placed on the market for current sale or use.

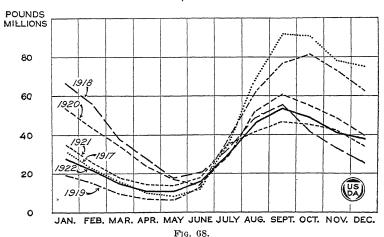
Cold-storage facilities are available at various points throughout producing sections and in all the larger cities, although in a number of cities storage space is not ample to provide for local needs, in which cases it is necessary to store at distant points and ship goods in as they are needed. There are approximately 400 public cold-storage warehouses in the United States where butter and cheese are stored.

Cold-storage charges are based on the commodity stored and the space occupied. Different conditions and temperatures are required for different products. Butter is best held at temperatures around zero Fahrenheit. At temperatures higher than this there is danger of the commercial quality being impaired. Cheese is stored at higher temperatures, 32° F. being commonly maintained. Cheese undergoes certain changes while in storage, which if proper conditions as to temperature, etc., are provided result in the quality being improved. This is usually referred to as ripening. In this respect cheese differs from butter, as butter has a tendency to deteriorate even under the most favorable conditions. Butter is stored to relieve shortages. Cheese may be said to be stored for a similar purpose, but also to improve the quality. So-called aged cheese is that which has been held in storage.

SEASONAL COLD STORAGE HOLDINGS OF CREAMERY BUTTER, 1917-1922.



SEASONAL COLD STORAGE HOLDINGS OF AMERICAN CHEESE, 1917-1922.



Figs. 67 and 68.—The low point in the cold-storage holdings of butter and cheese is normally reached about May 1. 'At this time dairy cows are being put onto pastures, the milk flow increases, and butter and cheese production begins to mount rapidly. Quality in the manufactured products is also at its best at this season, so that those whose business is supplying the public with butter and cheese begin to lay in supplies for fall and winter use, for with the approach of cold weather production drops again and is insufficient to supply current demand. Placing butter and cheese in cold storage is providing for future needs. No processing is involved, the goods being merely held at very low temperatures. Without cold-storage facilities, prices in the winter would probably be so high as to be prohibitive for consumers, and in the summer so low as to discourage production on the part of dairymen.

The financing of such large quantities of butter and cheese as are placed in storage each year involves vast sums of money. These holdings are financed for the most part by members of the distributing trade, as ownership of the goods usually passes from the hands of the creamery and cheese factory very shortly after the goods are manufactured. The reason for this is that very few manufacturers are financially able to handle a storage operation, because of limited capital and the fact that the dairy farmers who furnish raw material must be paid for it at least monthly. common plan followed by the trade in financing storage holdings is that of securing loans, using warehouse receipts as collateral. Loans are secured from the cold-storage warehouses themselves or from banks. Amounts ranging up to about 75 per cent of the value of the product are frequently advanced on such loans, this being considered a safe risk. The actual risk incurred is not only deterioration in quality or grade but also the danger of declining prices. In some cases price declines are so great that goods are surrendered to those making loans, and they have to be sold in order to realize on the loan and to cover carrying charges. Contrary to the belief of many people, goods in cold storage are rarely owned by the warehouses, but belong to hundreds of different dealers, who are utilizing cold-storage facilities in order to assure themselves of supplies of suitable grades and quantities of goods for fall and winter requirements. There is always to be found among the trade those who store for purely speculative reasons, although the quantities of butter and cheese which are held by such operators each season are probably not large.

While the primary purpose of storing is to provide for future needs, the incentive to this must be the likelihood of moving goods from storage at a profit. Prices of goods moved from storage must be higher than the prices of the goods when they went into storage in order to make storing profitable. These higher prices cover not only carrying charges, which vary according to the length of storage, but also interest on loan or investment, as the case may be, shrinkage, deterioration in quality, which may result from holding and which would necessitate selling as of a lower grade, and, finally, profit on the transaction.

Information regarding the amounts of dairy products in storage is compiled regularly by the United States Department of Agriculture and monthly reports of holdings are issued. Daily movements in the large wholesale markets at New York, Chicago, Philadelphia, Boston, and San Francisco are also shown on the daily market reports issued by local offices of the department in these cities.

WHOLESALE BUTTER PRICES AND STORAGE MOVEMENT, SEASON OF 1921-1922.

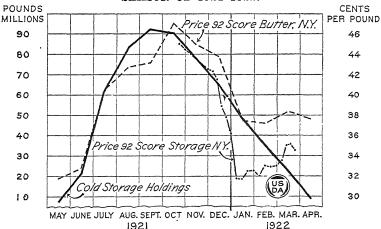


Fig 69—Supply and demand are the factors which influence prices There is such a surplus of butter during May and June, due to the natural heavy production at that time, that prices usually reach their lowest level then. It is true that a heavy movement into storage occurs during this period, but those who incur the risk incident to storing are unwilling to assume this risk unless prices are such that they feel a profit can be realized on their operations. Hence, if prices tend to advance too much during the storing season there is a tendency for the movement into storage to become lighter. So long as there is a wide variation in seasonal production there is bound to be some variation in seasonal prices.

Inspection and Grading of Dairy Products.

Of the various factors which go to build up a permanent demand for dairy products quality stands preeminently in the foreground. Consumptive demand is affected by high price levels, but within reasonable limits the consumer's preference is for the best. Production of quality products, however, not only caters to the most profitable classes of trade but it also encourages a greater use of the product. The natural tendency of consumers to "eat more because it tastes good" is just as true of dairy products as it is of

other foods, and producers of highest grade goods therefore share in an increased demand as well as a higher price. The willingness of consumers to pay for quality is illustrated by the spread between 88-score and 92-score butter on the New York market. There have been differences amounting to as much as 15 cents a pound in favor of good butter over poor butter, with the average difference over 5 cents a pound. The lower returns to producers of low-grade butter is obvious.

Traders în the large markets are very discriminating in the purchase of butter and cheese. This is partly due to their desire to drive a bargain, but more largely to the fact that in wholesale markets particularly goods are bought and sold on the quality, or grade, basis. In the more important markets wholesale dairy exchanges have established official classes and grades and in most cases have provided an in-

WHOLESALE PRICES OF 92 AND 88 SCORE BUTTER, NEW YORK MARKET, JANUARY, 1919 to JULY, 1922.

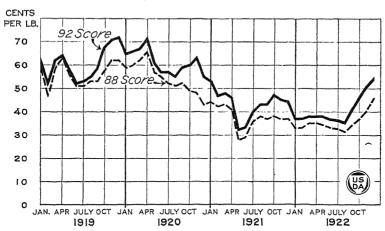


Fig. 70.—It would be difficult to measure the actual loss to creameries which result from the marketing of a low-quality product. It is evident, however, that doing this is costing creameries immense sums each year. The average difference in wholesale prices on the New York City market between 92 score (good) butter and 88 score (fair to poor) butter has averaged about 5 cents a pound since 1918, but differences as great as 15 cents a pound have occurred. Creameries producing low-grade butter not only lose on the price which they are able to secure for their product, but they also fail to help build up that demand which the production of a quality product alone will develop.

spection service to handle disputes which may arise between buyers and sellers. Without a definite basis upon which to do business, neither the buyer nor the seller can operate intelligently. It is upon the basis of these grades that price quotations in the different markets are established which form the selling basis for the great bulk of the butter bought and sold throughout the entire United States.

The grading of butter and other dairy products is a difficult task which requires much experience, since the senses of smell and taste are relied upon to a large extent. The grade of butter, for example, is determined by an examination during which the flavor, body and texture, color, salt, and package are taken into consideration, as a result of which a score or grade is placed on the lot. The requirements for various grades usually include a minimum score, although this is not always the case. It is the common practice in the large markets, where official inspections of butter and cheese are made, to use the score-card system, which recognizes specific values for each of the several



FEDERAL INSPECTION OF BUTTER.

Fig. 71.—Federal inspections of butter are made upon requests from persons or firms having a financial interest in the product concerned, following which an official inspection certificate is issued. (See Fig. 72.)

points upon which the product is judged. On the butter score card the distribution of the points is as follows: Flavor, 45; body, 25; color, 15; salt, 10; package, 5; total, 100 points.

Butter scores and grades are quite well defined and understood in the large markets, but this is not so true of cheese, although there is a growing tendency to place the buying and selling of cheese more on a definite grade basis. Market requirements for cheese differ so much and the methods of marketing are so entirely different from butter that progress in grading cheese has been slower.

United States food products inspection service.—In addition to the inspection services which are maintained by the various trade exchanges, the United States Department of Agriculture now provides for butter inspections at New York, Chicago, Philadelphia, Boston, San Francisco, and

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Fig. 72.—Federal butter inspection certificate.

Washington. Such inspections are made upon application of anyone having a financial interest in the product concerned. The cost of these inspections is relatively small, the minimum charge being \$1, and a carlot averages only \$3. These fees are paid by the applicant.

The Federal inspection service applies the same standards and the same methods in all markets. As the service develops and comes into greater use, it is expected to result in the adoption of uniform standards in the different markets, a condition which does not exist to-day. Increasing production of butter and intermarket movements make the recognition of a uniform standard highly desirable, and when this is accomplished it will result in the establishment of market values on a more satisfactory basis than at present.

Prices of Dairy Products.

It is necessary in discussing prices of dairy products to have clearly in mind the particular products referred to and what class of prices is under consideration. Different prices exist for the same grade of commodity at the same time, depending upon whether the prices are on the farm, in the markets, or whether they are wholesale or retail. There are such factors as supply and demand, however, which are of influence on prices in general. One of the outstanding influences affecting prices of all dairy products is the variation in supply as determined by seasonal production. Dairying is favored during the spring and early summer by weather conditions which make for natural pastures and which result in the heaviest production occurring during that time. Close to half of the annual production of creamery butter, for example, occurs during the months of May to August, inclusive, and with this heavy volume thrown on the market, prices are bound to react, declining under ordinary conditions.

From the individual farmer often comes the complaint that just at the season when his milk production is heaviest prices are lowest, and vice versa, but the reasons for this are obvious. Likewise, the remedy is apparent, and organized dairymen are recognizing the necessity of a more even

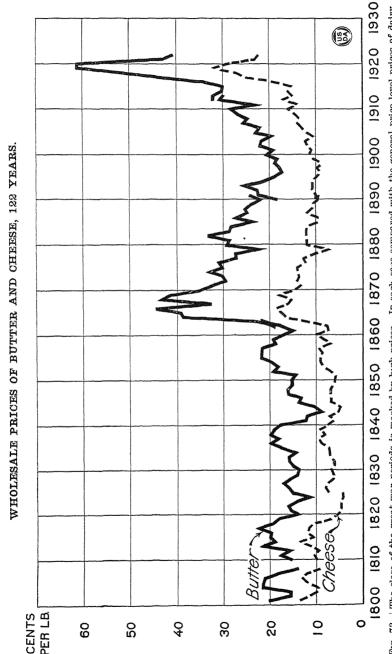


Fig. 73.—The close of the great war periods is marked by high prices. In each case compared with the general price level prices of dairy products were slow to rise and slow to fall. These curves show two long-time cycles of falling and rising prices, falling 1864–1896 and rising 1896–1920. The cycles or trends apparently follow the changes in the general price level. Shorter cycles due largely to movements of farmers in and out of the dairy business and annual fluctuations in prices due largely to seasonal differences in production and demand also appear in the curve.

distribution of production if prices are to be stabilized. Even where seasonal production is beyond control, the removal of surplus milk from the market by diverting it into different products is the goal toward which effort is directed in order that prices may approach a more constant level.

Producers' prices.—The price which the local dairyman receives for his product is determined by numerous factors, the more important of which are as follows:

- (1) Supply and demand. Regardless of other factors which influence prices, supply in relation to demand is what ultimately makes prices seek their level in a local market.
- (2) Character of market supplied. Local markets frequently offer several outlets for milk and competing buyers may be milk dealers or manufacturers of dairy products such as creameries, condenseries, cheese factories, or ice-cream factories. Still further, dairymen sell direct to consumers in many of our cities and in most of the smaller towns and villages. Prices paid by competing buyers may vary on account of different requirements which milk purchased must pass, such as temperature, test, delivery, etc.
- (3) Distance to market. In certain districts which are favorably located with reference to near-by markets, prices are usually higher than in districts not so located. The dairyman in Minnesota who markets his milk through a local creamery, which sends butter to New York, is in competition with dairymen from many other sections where the freight or other transportation costs may be less. As is shown by published schedules of fluid-milk prices in the New York City territory, high freight rates from the more distant shipping points mean lower prices to producers at those points.
- (4) Form in which product is sold. The sale of milk in fluid form for city consumption usually brings higher gross prices to producers than the sale in any other form. A gross-price comparison, however, is not an index of net returns, on account of variations in the costs of producing milk for different purposes.
- (5) Section of the country where located. As an example of sectional variation in prices, producers of market milk

throughout the South receive prices which average considerably higher than those paid in other sections of the country. Dairying there is a new industry, especially the production of market milk, and high prices are necessary to stimulate production sufficient to supply the demand.

WHOLESALE PRICES OF 92-SCORE BUTTER AT NEW YORK AND CHICAGO AND CREAMERY BUTTER PRODUCTION, 1921.

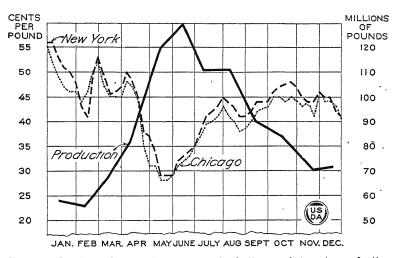


Fig. 74.—Supply and demand operate in the butter markets. As production increases each spring and more butter becomes available on the markets, prices begin to decline. During 1921 prices were lowest in May, while production did not reach its peak until the following month. The surpluses on the markets, however, began to be drawn upon for storing purposes during May, so that with this support prices shortly afterwards took an upward tendency.

- (6) Season of the year. By reason of the seasonal variation in production, prices normally reach their highest point during the winter and their lowest point during the spring and early summer.
- (7) The general price level. On a long-swing basis, prices for milk in whatever form it is used have a tendency to seek a general level. Cheese-factory milk, for example, may be worth more than condensery milk, or vice versa, only so long as market prices on the finished product make such a condition possible. Changes from one product to another do

not occur overnight, but production responds more or less quickly to an oversupply or shortage.

Prices in the Large Markets.

In the large markets of the country, various prices for the same grade of a commodity may be found. Using butter prices as an example, there are (1) prices which receivers in the markets pay creameries; (2) prices at which butter is sold by receivers in a wholesale way; (3) jobbing prices which represent sales of smaller quantities to such classes of trade as grocery stores; and (4) retail prices which are charged the consumer for what he buys.

Wholesale prices, and consequently prices paid shippers, fluctuate more than jobbing prices and retail prices, because wholesale trading is carried on under a system which results

WHOLESALE PRICES OF 92 SCORE FRESH CREAMERY BUTTER, 1921. COMPARISON OF FIVE DIFFERENT MARKETS.

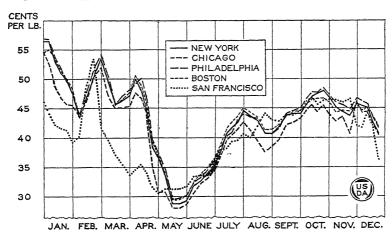


Fig. 75.—Since intermarket shipments of butter can be so readily made, prices in the different markets follow each other more or less closely, except for such differences as freight costs, etc. As soon as prices in one market become out of line with prices in other markets there is a tendency for butter to move to or from that market, depending upon whether prices are higher or lower. The downward tendency in the spring of 1921 occurred earlier at San Francisco on account of an earlier producing season on the Pacific coast. San Francisco dealers took advantage of this situation and shipped considerable quantities of butter to eastern markets during March and April.

in prices reacting quickly to supply-and-demand conditions. Further along the line of distribution where smaller quantities of goods are handled, and less risk incurred, margins are wider and selling prices do not always follow closely minor wholesale price fluctuations. Wholesale prices of butter and cheese, varying as they do from day to day and for different grades, represent the prevailing opinions of values on the part of dealers who follow closely all available statistics regarding production, movements, supplies, demand, etc. Through the activities of various commercial organizations and the market news service of the United States Department of Agriculture, comprehensive reports are now available daily for reference.

Total supply and demand are the ultimate factors of influence in establishing prices, although in local markets

EFFECTS OF INTERRUPTED TRANSPORTATION ON THE PRICE OF BUTTER AT NEW YORK AND CHICAGO, 1920.

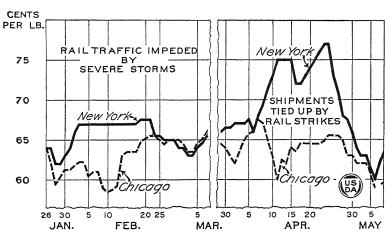


Fig. 76.—In markets like New York and Chicago, to which the bulk of the surplus butter produced is shipped, wholesale prices react quickly to immediate supply and demand, and even slight variations in daily arrivals may cause prices to fluctuate unless there are similar variations in demand. But when transportation is so disturbed that the movement of goods is materially interrupted, violent price changes may occur. The possible effect of interrupted transportation on prices is illustrated by what occurred in New York and Chicago markets during February, 1920, when there were severe storms throughout shipping sections, and in the following April, when the rail strike temporarily affected shipping. In both cases shippers in the Middle West shipped to Chicago rather than risk shipping to New York. The effect of the increased receipts at Chicago and the falling off of receipts at New York was a spreading apart of prices on the two markets.

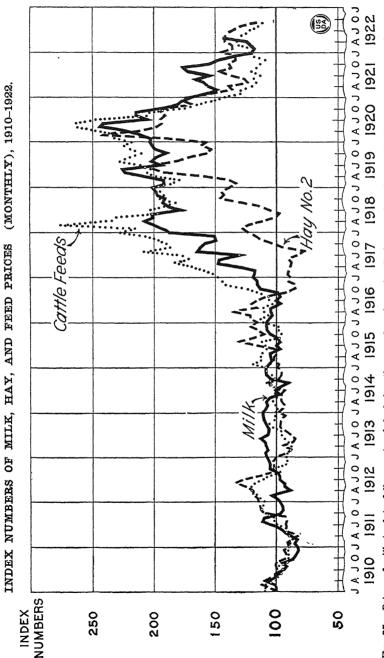
various conditions may develop which are of temporary influence on local prices. Speculative demand, sentiment, and interrupted movement of goods to market are examples of these influences, and while they affect supply and demand it is not possible, because of their uncertainty, to measure price changes which may occur as a result of them. Further elements of influence on prices are competition, efficiency, service included in the transaction, credit extended, and costs of doing business.

Regardless of the fact that a great many influences bear on price changes, markets follow each other closely over a period of time.

How Prices of Dairy Products Are Established.

The majority of farmers who have dairy products to market sell either milk or cream. But the different uses to which both of these may be put brings into account a variety of methods by which prices are determined. Beginning with the dairyman who peddles his milk directly to the consumer, there is often no well-defined basis of establishing price. Presumably, cost of production is covered, but selling prices may be governed by competition or may be arbitrarily placed at a figure representing what the producer thinks he ought to have for his product. Prices paid for milk sold to city distributors are arrived at by various methods ranging from the arbitrary naming of buying prices by dealers, to the establishing of selling prices by producers through their own selling organization. Milk prices have been the cause of many bitter disputes between producers and dealers. This has resulted in the formation of many producers' marketing organizations, which in some cases have undertaken the retail distribution of milk.

While for some cities prices to be paid producers may be named and for others they may be arbitrated, it is practically without exception the case that if a price is not named in advance a basis is named or agreed upon. For example, a definite price per hundred pounds may be agreed upon and accepted, or the price may be based upon some current published butter or cheese quotation. In some sections elaborate studies have been made of all factors bearing



Frg. 77.—Prices of milk tend to follow costs of feed, in other words prices of milk have to be adjusted in the long run to feed costs. During the period of rising prices, 1916-1920, prices of concentrates rose more rapidly and of hay less rapidly than price of milk, in the period of falling prices the prices of feeds fell more rapidly than milk. An attempt has been made to eliminate fluctuations due to regular seasonal changes by using as the base of the index for each month the average for the same month of the period 1909-1913.

upon milk prices, such as variation in seasonal production, values of related products, and costs of production.

Milk for nearly all the larger cities is bought under the so-called "surplus" plan—i. e., an agreed price is paid for milk delivered by producers up to a certain amount, beyond which a lower price is paid for such surplus as may occur. At least two general plans are followed. In the first an average production is established for each producer, based usually upon his average for certain months in the fall. With this quantity as a base, a sliding scale of prices is worked out for milk in excess of this amount, due consideration being given both to the heavier production and heavier demand which occur at other seasons. In the other plan an endeavor is made to determine the actual surplus and pay accordingly. In order to do this, dealers furnish audits of their business, showing disposition made of all milk received, and prices paid producers are based on such figures. Producers' organizations located in territories which are widespread and which include all types of dairy plants are leaning toward the adoption of a pooling plan in order that all producers shall share in whatever reduction in returns may occur due to surplus production.

Basis for butter prices.—Wholesale butter prices the country over are quite generally based on wholesale quotations at New York and Chicago. It is to these two markets that the great bulk of the surplus production is shipped, and also in those cities the greatest wholesale demand occurs. In both New York and Chicago wholesale butter prices are published by commercial reporting agencies and by the United States Department of Agriculture. In order to arrive at these quotations, market reporters attend the sessions of the wholesale exchanges, later canvassing the trade in order to secure complete information as to selling prices and the tone of the current day's market. Prices are reported for the different grades of butter, because values differ according to quality. Market reporters hold important positions in the markets and their responsibilities are large.

Various other plans of establishing wholesale quotations have been tried and are still followed in some markets, but the use of established market reports is followed more generally than any other basis.

384 Yearbook of the Department of Agriculture, 1922.

Among other methods which have been and still are followed to a small extent, two are of more than passing interest, namely, quotation committees and the use of exchange sales. Theoretically, the establishment of prices by a quotation committee of an exchange is a plan possessing certain merit. With such a committee either elected or appointed, representing different interests, a representative price should be established which would take into consideration bids, offers, and sales, as well as the tone of the market. The public, however, looks with more or less suspicion on prices which are established through such procedure, and furthermore, court orders have prohibited quotation committees on most of the exchanges where the plan has been tried.

Establishing quotations as a result of exchange sales is another method which has been followed in certain markets. But whether prices of closing sales or of the majority of sales have been accepted as official quotations, this method

PRICES OF MILK COMPARED WITH AVERAGE PRICE OF ALL COMMODITIES, NEW YORK CITY, 1899-1922. 1913 PRICE=100.

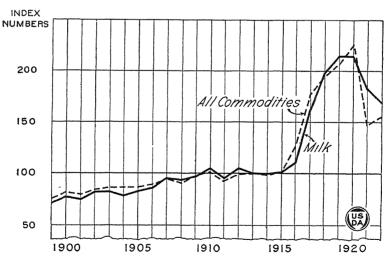


Fig 78.—The trend of the price of milk in New York City follows very closely the all-commodity price level. Before the war the trend of milk prices was upward along with the price level; the war caused prices generally to rise to abnormal heights, from which they fell rapidly beginning in 1920 and continuing until 1922. During the period of rapidly rising prices the price of milk rose more slowly than the general price level, and fell more slowly as prices deflated.

has not met with the greatest favor. Sales on exchanges usually represent but a small percentage of the total business in the market, and the possibility of such sales not being representative of the market have brought forth so much criticism that this method is not in general favor among the butter trade. Both of the above methods were followed at different times in making prices on the old Elgin Board of Trade, which prices were used the country over a number of years ago as a buying and selling basis. The Elgin board was suspended through Government order in 1917. The Chicago and New York market quotations now form the basis of most wholesale trading which takes place, although local quotations are often used for local or near-by business.

Butter-market quotations are not only used in buying and selling butter, but are extensively used in buying milk and cream on the butter-fat basis. It is quite customary for creameries to bid for cream, naming a butter-fat price based upon some well-known market's butter quotations. Frequently milk dealers buy milk in the same way.

Basis for cheese prices.—The bulk of the cheese marketed by cheese factories is sold on the basis of weekly cheeseboard quotations. Cheese boards are local exchanges where goods are sold by auction to the highest bidders. At present there are but two active cheese boards, both located at Plymouth, Wis., although in former years numerous boards were located at various points throughout the cheese-producing sections of Wisconsin, also in New York State. The two Wisconsin boards meet on Monday, one meeting following the other, and as a result of trading which occurs, prices for the various styles are established which serve as a basis of trading until the next board meetings the following week. Actual selling prices may vary from day to day from board quotations as market conditions warrant, but ordinarily no radical fluctuations occur oftener than once each week. New York State cheese boards, which were more or less inactive for several years, are practically not functioning now. With the disappearance of the New York boards New York State factories have either based sales on Wisconsin board prices or on wholesale prices ruling in the New York City market. New York City prices are reported by a local trade paper,

and are also included as a part of the market news service of the United States Department of Agriculture.

In Wisconsin and in some other sections a great many of the cheese factories are cooperative, and returns to dairymen are made on the cooperative basis. In sections where fluid-milk dealers, condensaries, creameries, or other buyers are competing for milk, cheese factories have to take this competition into account. The ability of such buyers to outbid cheese factories is one reason that will account for the decreasing number of factories in the State of New York.

Cooperative Dairy Marketing Organizations.

Cooperative organizations of dairymen in the form of cooperative creameries and cheese factories have been established for many years, such organizations being local enterprises whose activities are largely confined to manufacturing. There are many of these successful cooperative organizations throughout the United States, although the largest number are located in Minnesota, Wisconsin, Michigan, and Iowa. For the most part, however, organizations of this type have devoted very little attention to the marketing of their manufactured product, merely shipping it to wholesale dealers in the large markets or supplying local trade as demand developed. The principal advantage of organization has been the fact that whatever profit was realized from the business reverted back to the stockholders, who in strictly cooperative organizations are producers.

A number of years ago a group of cheese factories in Oregon federated for cooperative marketing, with the result that a most successful system has now been worked out which, together with quality production, has resulted in a heavy demand for their product. A similar federation of some 200 or more Wisconsin cheese factories is now operating on a similar plan. For a number of years a small group of Minnesota cooperative creameries have maintained a sales office in New York City, and during the past year another larger group of Minnesota cooperative creameries has been organized and arrangements are now being perfected for car-lot shipments and the distribution of car-lot quantities among New York City receivers through the association's

own New York office. In California a small number of cooperative creameries have gone a step further, and for several years have maintained their own distributing agency in Los Angeles which supplies retail trade direct. Interest in cooperative manufacture is illustrated by these organizations.

The greatest progress in organizing for cooperative marketing of dairy products has been made by dairymen who produce market milk for city consumption. Until comparatively recent years market-milk producers generally, like other dairymen, confined their efforts largely to production, leaving the marketing and distribution of their product to the already established agencies which were engaged in those lines of the business. More recently the actions of milk producers indicate an effort on their part to become more important factors in the business of marketing. This tendency has been fostered by various National and State agricultural organizations.

Producers' marketing organizations of various types have come into existence within recent years. The majority of these have been formed for the purpose of collectively bargaining for the sale of milk to city dealers. Although a few organizations have now undertaken the actual merchandising and distribution of their product, the earlier tendency was toward collective bargaining only, with the primary object of bargaining with buyers in an effort to obtain satisfactory prices.

Many legal points have been encountered by producers when deciding upon a form of organization, but of the larger associations now operating, the use of certificates of indebtedness or of the rotating stock plan have been most generally followed. The purpose of these is to get the control of the association into the hands of producers as soon as possible. Where preferred and common stock have been sold, the plan adopted has generally provided for retiring a certain amount of the former each year, using outside capital merely to finance the organization in its infancy. A further matter which has been found of vital importance has been the selection of a capable and representative board of directors, yet small enough for the affairs of the association to be handled without unnecessary delay and in a business way.

The largest cooperative marketing association of milk producers is the Dairymen's League, composed of dairymen who are located in the territory from which New York City draws its milk supply. This organization, with a membership of some 72,000 dairymen, has acquired the ownership of a large number of country milk plants through which milk is shipped to various markets and at which surplus milk is manufactured into butter, cheese, condensed and evaporated milk, ice cream, powdered milk, or such other products as market conditions may make the most profitable.

The association also sells the product of its members to milk dealers and others wherever such buyers maintain buying and receiving stations. Within the year the organization has entered New York City, has purchased the city plant of a large wholesale milk dealer, and has undertaken the wholesale distribution of milk direct to wholesale classes of trade such as hotels and restaurants. Sales offices are maintained in a number of cities, and through connections established with wholesale distributors, brokers, etc., certain products of the organization are sold under the association brand in foreign markets in many different parts of the world.

Wherever milk producers have organized, certain definite problems have always presented themselves. One of these has been the type of organization which would be best fitted for immediate needs, for upon the adoption of a satisfactory, workable, and equitable plan, the ultimate success of the undertaking has depended. Sufficient financing has been another obstacle. Without funds to put into operation the marketing scheme, an organization occupies much the same uninfluential position as its individual members. The securing of funds has often been extremely difficult, not only because of a lack of confidence on the part of members, but because of unsettled economic conditions which have put many producers in strained circumstances. of proper management has also impeded progress in some While some organizations have recognized the need of the most competent management obtainable, and have provided for it at considerable expense, others have been directed by officers whose vision was not broad enough to see the folly of false economy.

The surplus-milk problem has offered perhaps the greatest obstacle which organized producers have met, and where manufacturing facilities are not provided by associations it is now quite customary to make contracts with buyers, in which separate prices to be paid for surplus are recognized, the amount of surplus being determined by some agreed plan.

The Tariff on Dairy Products.

The tariff on dairy products has been a factor in international trade. Changes have been made from time to time in the tariff schedules. The early tariffs applied especially to cheese, but as other products have become important in international trade, those have been added. The present tariff applies to eight specific dairy products, and all of the rates are subject to change after investigation by the President of the United States.

The dates of the various enactments from 1789 to date, with the rates of duty imposed by each, are as follows:

Rates of duty on imports of dairy products.

Date of act (and when effective).	Rates of duty.
July 4, 1789 (Aug. 1, 1789).	Cheese, 4 cents per pound; other, 5 per cent.
Aug. 10, 1790 (Jan. 1, 1791).	Cheese, 4 cents per pound; other, 5 per cent.
May 2, 1792 (July 1, 1792).	Cheese remains 4 cents per pound; other, $7_{\frac{1}{2}}$ per cent.
June 7, 1794 (July 1, 1794).	Cheese,7 cents per pound; other, 10 per cent.
May 13, 1800 (July 1, 1800)	Cheese remains 7 cents per pound: other, $12\frac{1}{2}$ per cent.
Mar. 26, 1804 (July 1, 1804).	Cheese remains 7 cents per pound; other, 15 per cent.
July 1, 1812 (July 1, 1812).	Existing rates doubled until 1 year after the war.
Apr. 27, 1816 (July 1, 1816).	Cheese, 9 cents per pound; other, free.
May 22, 1824 (July 1, 1824).	Cheese remains 9 cents per pound; butter, 5 cents per pound; other remains free.
July 14, 1832 (Jan. 1, 1833).	Existing rates remain,
Aug. 30, 1842 (Aug. 31, 1842).	Cheese, 9 cents per pound; butter, 5 cents per pound; other, 20 per cent.
July 30, 1846 (Dec. 2, 1846).	Cheese, 30 per cent; butter and other, 20 per cent.

390 Yearbook of the Department of Agriculture, 1922.

Rates of duty on imports of dairy products-Continued.

Date of act (and when effective).	Rates of duty.
Mar 3, 1857 (July 1, 1857).	Cheese, 24 per cent, butter and other, 15 per cent.
Mar. 2, 1861 (Apr. 2, 1861).	Cheese and butter, 4 cents per pound, other, raw, 10 per cent; manufactured, 20 per cent
Apr. 29, 1864 (Apr. 29, 1864).	Existing rates increased 50 per cent for 60 days.
June 30, 1864 (July 1, 1864)	Duties in effect prior to April 29, 1864, restored.
June 6, 1872 (Aug. 1, 1872).	Cheese and butter remain 4 cents per pound, condensed or preserved milk, 20 per cent; sugar of milk, free; other, raw, remains 10 per cent; manufactured remains 20 per cent
Mar 3, 1883 (July 1, 1883).	Cheese, 4 cents per pound; butter and substitutes, 4 cents per pound; condensed or preserved milk, 20 per cent.
Oct. 1, 1890 (Oct. 6, 1890).	Cheese, 6 cents per pound; butter and substitutes, 6 cents per pound; fresh milk. 5 cents per gallon; condensed or preserved milk; 3 cents per pound; sugar of milk, 8 cents per pound.
Aug. 27, 1894 (Aug. 1, 1894).	Cheese, 4 cents per pound; butter and substitutes, 4 cents per pound; fresh milk, free; condensed or preserved milk, 2 cents per pound; sugar of milk, 5 cents per pound.
July 24, 1897 (July 24, 1897).	Cheese and substitutes, butter and substitutes, 6 cents per pound; fresh milk, 2 cents per gallon; condensed or preserved or sterilized milk, 2 cents per pound; sugar of milk, 5 cents per pound.
Aug. 5, 1909 (Aug. 6, 1909).	Cheese and substitutes, butter and substitutes, 6 cents per pound; fresh milk, 2 cents per gallon; fresh cream, 5 cents per gallon, condensed or preserved or sterilized milk, 2 cents per pound, sugar of milk, 5 cents per pound.
Oct. 3, 1913 (Oct. 4, 1913).	Cheese and substitutes, 20 per cent; butter and substitutes, 2½ cents per pound; milk, cream, condensed or preserved or sterilized milk or cream, sugar of milk, free.
May 27, 1921 (May 28, 1921).	Cheese and substitutes, 23 per cent; butter and substitutes, 6 cents per pound; fresh milk, 2 cents per gallon; cream, 5 cents per gallon; condensed or preserved or sterilized milk, 2 cents per pound; other rates remain as before.
Sept. 21, 1922 (Sept. 22, 1922).	Cheese and substitutes, 5 cents per pound, but not below 25 per cent; butter, 8 cents per pound; oleomargarine and other butter substitutes, 8 cents per pound; fresh milk, 2½ cents per gallon; sour milk and buttermilk, 1 cent per gallon; condensed or evaporated milk in sealed containers, unsweetened, 1 cent per pound; sweetened, 1½ cents per pound; other, 1½ cents per pound; cream, 20 cents per gallon; whole milk powder, 3 cents per pound; cream powder, 7 cents per pound; skimmed milk powder, 1½ cents per pound; malted milk and compounds or mixtures of or substitutes for milk or cream, 20 per cent; other dairy products, manufactured, 20 per cent. All rates subject to change by the President after investigation of cost of production, domestic and foreign.

Export Trade in Dairy Products.

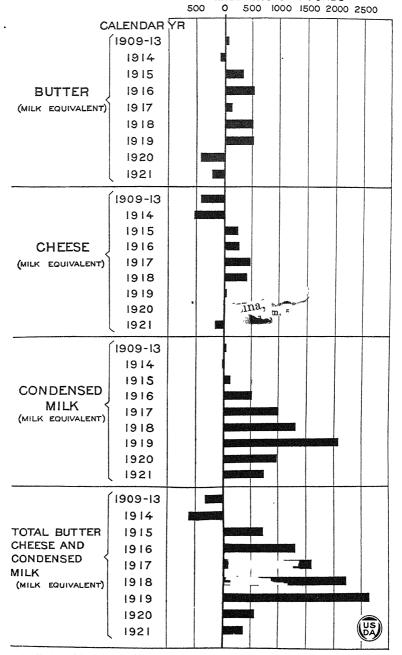
During the war period, from 1914 to 1919, exports exceeded imports, when all dairy products are taken into consideration, but in 1920 and 1921 more butter was imported than was exported, a similar condition prevailing also with cheese during 1921. The imports of butter during 1920 and 1921 were mostly from Denmark, where a rapid return to normal conditions following the war resulted in such a surplus of butter that it became necessary to seek new outlets. The United Kingdom had been Denmark's largest pre-war market, but during the entire year 1920, food-control requirements limiting butter consumption remained in force in that country, and Denmark was able to export to the United States, pay the import tariff, and realize a return materially higher than could be obtained on her own markets. With England now again in the market, the former demand for Danish butter has been renewed, and this, together with a high protective tariff, has diverted Danish butter from the United States.

Cheese imports during 1921 were largely from France, Italy, Argentina, and Switzerland, principally foreign varieties, with domestic varieties from Canada. Considerable progress was made in this country during the war in developing the manufacture of foreign varieties and this, together with the tariff, will probably have an effect upon future imports of cheese.

Exports absorb annually large quantities of condensed and evaporated milk. During 1920, out of a total production of 1,578,015,000 pounds, exports amounted to 411,077,982 pounds, and of the 1921 production of 1,464,163,000 pounds, export trade absorbed 289,677,247 pounds. Exports during 1919 of over 850,000,000 pounds of condensed and evaporated milk represented the largest quantities which have ever been shipped from this country during a single year. The heavy demand for canned milk created by the World War stimulated production, with the result that many new condenseries were established. Foreign demand still exists, but exports have fallen off heavily due to the exchange situation, the unsatisfactory condition of foreign credits, and the fact

FOREIGN TRADE OF THE U.S. IN DAIRY PRODUCTS.

EXCESS OF IMPORTS EXCESS OF EXPORTS
MILLIONS OF POUNDS



that increased production of condensed and evaporated milk in other countries, notably Switzerland, the Netherlands, and Australia, have made those countries potential competitors of the United States for this business. A critical situation faced domestic manufacturers during 1920 when production was at a high point and export demand began to fall off. Regardless of the fact that production was cut down to a low figure, stocks in this country accumulated in such quantities during the latter part of the year that markets became demoralized and numerous factories were forced to cease operations.

Since that time exports to European countries have been mostly for relief purposes, heaviest shipments going to Russia. Germany has received large quantities, but the bulk of

PRODUCTION, EXPORTS, AND STOCKS ON HAND OF CON-DENSED AND EVAPORATED MILK (MONTHLY), 1919– 1922.

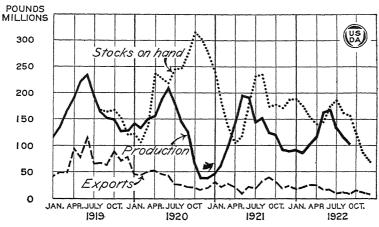
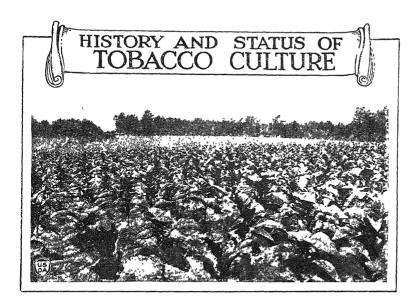


Fig. 80.—The heavy demand for condensed and evaporated milk during the war period brought about a large expansion of this branch of the industry in the United States. Numerous new plants were established and production increased rapidly. Following the war and the readjustment of economic conditions, a serious situation developed. Requirements of the armies were naturally reduced and export demand, which had absorbed a large portion of the increased production, became suddenly lighter because of the exchange situation and the fact that foreign countries entered the field of competition. The result was that while production in this country was greatly curtailed, stocks accumulated, reaching such large quantities the latter part of 1920 that condensed and evaporated milk markets became demoralized. Further readjustments which have been made since that time have resulted in working away from these unsatisfactory conditions, and the industry is slowly approaching normal.

394 Yearbook of the Department of Agriculture, 1922.

this was presumably moved later into Russia. When sugar prices forced heavy advances in the selling prices of condensed milk there was a shift in demand from condensed milk, which is the sweetened product, to evaporated milk, which is unsweetened. Only about half the 1921 exports consisted of condensed milk, while in 1920 exports of condensed milk were double those of evaporated.



By W. W. Garner and E. G. Moss, Bureau of Plant Industry; and H. S. Yohe, F. B. Wilkinson, and O. C. Stine, Bureau of Agricultural Economics.

Extent of the Industry.

THE size of the tobacco crop appears small when compared with the enormous production of such crops as wheat, corn, and cotton. The tobacco acreage constitutes about five-tenths of 1 per cent of the acreage devoted to all crops. In the census year 1919 the value of the tobacco crop was about 3 per cent of that of all farm crops. Nevertheless, the acreage and production of tobacco are large, and the value of the crop is exceeded only by that of corn, hay and forage, cotton, wheat, oats, and potatoes. Of the staple crops rve and barley, in addition to the preceding, surpass tobacco in acreage. According to census returns for 1919, tobacco was grown in 42 States, in 1,694 counties, and on 448,572 farms. The crop of 1,465,481,000 pounds was produced on 1,951,000 acres of land and was valued at \$570,868,000. During the five-year period 1917-1921 the average area in tobacco was 1,702,000 acres, the production averaged 1,362,000,000 pounds, and the average value of the crop was \$364,620,000, according to estimates of the Bureau

of Agricultural Economics. Tobacco culture is largely localized in a comparatively few States, and in several States extensive culture is limited to only a few counties. In some localities tobacco culture becomes the dominant feature of The three States, Kentucky, North Carolina, agriculture. and Virginia, produce nearly two-thirds of the total output of the country, and Kentucky alone produces a third of the total. In 1919 tobacco was grown on 143,599 farms in the latter State and 640,241 acres were devoted to the crop. North Carolina stood first in value of the crop, which returned to the farmers more than \$151,000,000. This amount was 30 per cent of the value of all farm crops of the State. Lancaster, Pa., is the leading county of the United States in acreage and production, and in 1919 produced 49,335,000 pounds on 37.301 acres. Hartford, Conn., the second county in production, leads in the value of her crop, which in 1919 was worth \$13,000,000, or more than two-thirds of the value of all crops produced.

The United States leads the world not only in the total production of tobacco but also in the number and diversity of distinctive types produced. Types of leaf especially adapted for all forms in which tobacco is used are produced in important quantities. The tobacco crop is the basis of extensive and varied manufactures, affording employment to many persons and involving large investments of capital. The magnitude of these operations is indicated by the census returns, which show that in 1919 the number of tobacco-manufacturing establishments was 10,291, with a capital investment of \$604,839,572. Employment was afforded 183,565 persons, who received as salaries and wages \$153,299,012, and the aggregate value of manufactured products was \$1,012,933,213. Manufactured tobacco has long been an important source of revenue for the Government, and in 1921 the amount derived from this source was \$254,-035,199.

World Production.

Tobacco is grown in considerable quantity in various parts of the world. (Fig. 1.) As far as statistics are available the 11 countries producing upward of 50,000,000 pounds annually during the pre-war period, 1909 to 1913, are, in

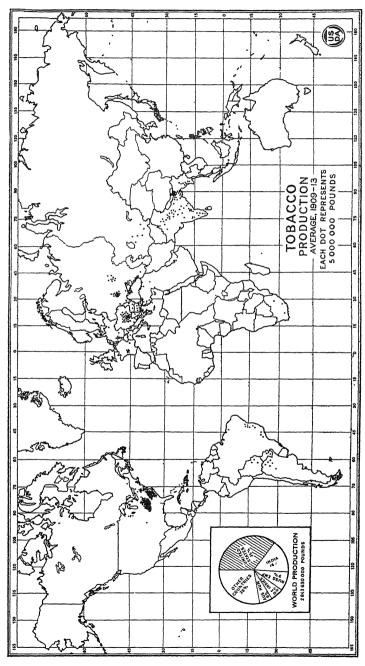


Fig. 1.—Tobacco may be grown successfully under a wide range of conditions of soil and climate, as shown by the fact that this crop is an important one in many parts of the world. The commercial value of the product, however, is influenced to an extraordinary degree by soil and climate so that the product of different countries varies greatly in market value.

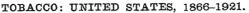
the order of quantity produced, the United States, British India, Russia, Hungary, the Dutch East Indies, Japan, Germany, Philippine Islands, Brazil, Cuba, and northern Caucasia. The production of China undoubtedly is very large in the aggregate, but for that country nothing more than fragmentary statistics are available. It is estimated that world production for the period 1909 to 1913 averaged approximately $2\frac{8}{10}$ billion pounds, of which the United States furnished 35 per cent.

It is apparent that the tobacco crop of the world is produced under widely contrasted climatic conditions and on very diverse types of soil. The tobaccos thus produced differ greatly as to properties which determine their usefulness for different forms of manufacture, and consequently there are wide differences in the commercial value of these tobaccos. Most countries can readily produce large quantities of tobacco but only of a relatively inferior grade, while only a few countries possess areas having the necessary soil and climatic conditions for growing tobacco of superior merit. So important are the effects of soil and climate on the quality of the tobacco produced that even in those countries which, as a whole, grow a product of relatively low-grade, tobacco culture is more or less definitely localized.

Acreage, Yield, and Production in the United States.

In 1866 the estimated area in tobacco was slightly more than a half million acres and, with a fairly steady rate of increase, the acreage first passed the million mark in 1899. (Fig. 2.) Beginning with 1904, there was a 5-year period of reduced acreage, followed by a marked increase to an average of nearly 1½ million acres for the 5-year period, 1917 to 1921. The acreage, therefore, has tripled in a half century. In 1920 the acreage approached the 2-million mark, but low prices resulted in a marked reduction in the area planted in 1921.

The yield per acre fluctuates widely from year to year, the lowest average yield for the country during the past half century, namely 569 pounds, being that of 1869. The highest average yield for this period was 894 pounds, in 1911.



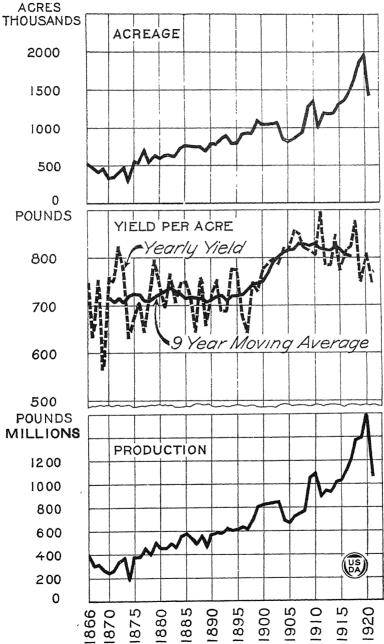


Fig. 2—The acreage of tobacco has increased fairly steadily since 1866 Production has increased more rapidly than acreage owing to a higher yield per acre.

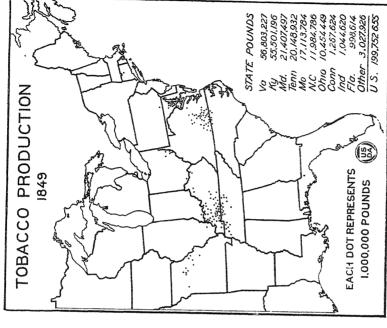
Using nine-year moving averages to smooth out seasonal influences, it is seen (Fig. 2) that there was no marked change in average yield per acre during the first 30 years of the period covered. Beginning about 1897, however, the average yield advanced from about 715 pounds to more than 800 pounds per acre within a decade. This increase in yield was due in part possibly to the extension of tobacco culture into new territory, but the principal factor was the increased use of fertilizers. There has been no further decided change in average yield per acre.

The total production has increased from an average of about 350,000,000 pounds for the 10-year period ended in 1879 to 1.1 billion pounds for the 10 years ended in 1919. This increase in production is due chiefly to increase in acreage, only a small fraction being accounted for by increase in acre yield. The crop of 1920 was the largest ever grown, the estimated production for that year being 1,582,225,000 pounds. The 1921 crop, however, amounted to only 1,075,-418,000 pounds.

Tobacco Culture a Highly Specialized Industry.

Historical Development.

At the time of the discovery of America the natives were growing tobacco from Canada southward as far as southern Brazil. Early records show that the aborigines understood the more fundamental features of tobacco production as now practiced, including the details of proper spacing in the field, topping and suckering the plants, and the distinctive processes of drying now known as air curing, sun curing, and fire curing. Spanish settlers began commercial tobacco culture in the West Indies and Central America and South America long before Jamestown was established, so that at the outset the tobacco produced by the Virginia and Maryland settlers was forced to meet the competition of the Spanish product when sent to Europe. Nevertheless, tobacco promptly became a leading article of exchange with the mother country, and its culture has remained a permanent feature of agriculture in Virginia and Maryland. Throughout colonial days, when Virginia and Maryland produced the bulk of the crop, there was a tendency for production



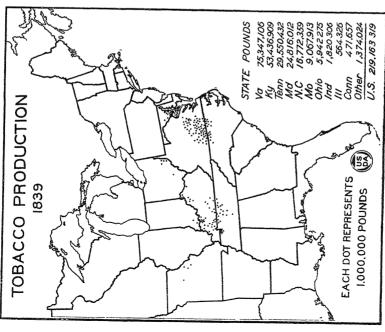
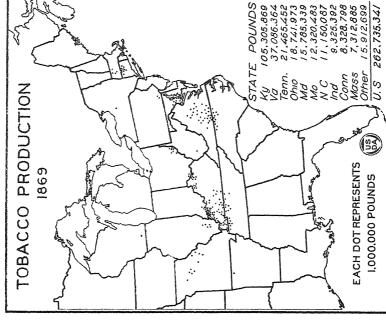


Fig. 3 --- In 1839 the tobacco crop was grown mainly in the States of Virginia, Maryland, North Carolina, Kentucky, and Tennessee. During the decade 1839-1849 there was no marked change in total quantity of tobacco grown or in distribution of production.



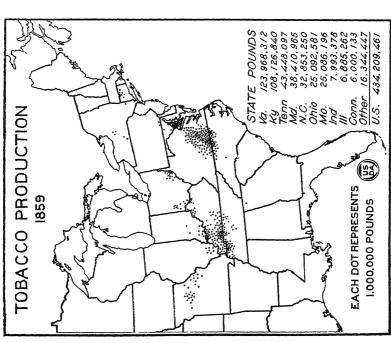
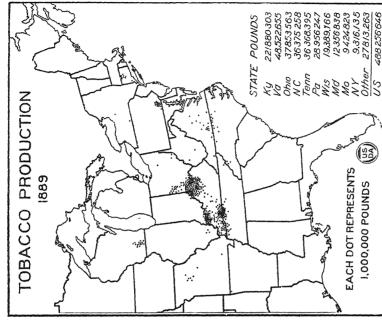
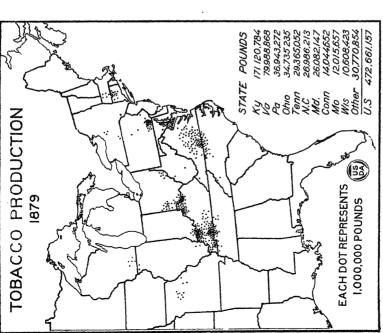


Fig. 4—By 1859 production had increased greatly in the leading tobacco-growing States, the crop of that year being more than twice as large as the 1849 crop. In the decade 1859-1869 influences of the Civil War caused a shift in the center of maximum production from Virginia to Kentucky where it has since remained. Production for the country as a whole also was greatly curtailed





Fra. 5.—In the decade closing with 1879 there was a notable increase in production in northern tobacco-growing States, especially in Pennsylvania and Wisconsin. There were no striking changes in distribution of production in the period 1879-1889 except a marked expansion in production in north central Kentucky.

to increase more rapidly than European demand, thus causing very low prices. Tobacco was a constant object of legislation in vain efforts to remedy this situation by such devices as fixing prices, limiting production, and providing penalties for false packing. By 1664 tobacco exports in Virginia and Maryland had reached nearly 24,000,000 pounds, and by 1770 the portion of the crop exported averaged about 100,000,000 pounds. During the following half century trade disturbances, resulting largely from the Revolutionary War and the long series of Napoleonic wars in Europe, materially checked further expansion in the production and exportation of tobacco. During this period, however, tobacco culture assumed increasing importance in Ohio, Kentucky, and Tennessee.

Changes in leading centers of tobacco production from 1839 to date are shown in Figures 3 to 6, inclusive. In 1839 the bulk of the crop was grown in Virginia, Kentucky, Tennessee, Maryland, North Carolina, Missouri, and Ohio, the two first named States furnishing nearly 60 per cent of the total. During the following decade there was little change in distribution of production, except that the crop of Missouri increased considerably. In 1859 production had increased in all the above-named States, and in addition the crop had become of some importance in the Connecticut Valley and in New York and Indiana. Virginia and Kentucky still produced more than half of the total crop. During the following decade the Civil War greatly curtailed production in Virginia, North Carolina, Maryland, and Tennessee, with the result that Kentucky assumed a commanding lead among the principal producing States. this period there was considerable development of the tobacco industry in the Connecticut Valley.

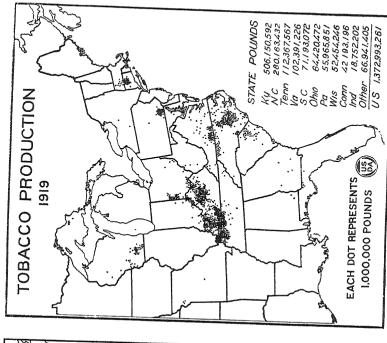
In the decade ended in 1879 there was a considerable increase in production in nearly all the leading tobacco States, and for the first time production in Pennsylvania and Wisconsin became of importance. Production in Missouri reached its maximum in this period. During the decade ended in 1889 there was a further decided increase in average production for the country as a whole, although the 1889 crop itself was below the average, especially in Virginia. During this period Kentucky further increased her lead as

the principal producing State. There was also a considerable increase in production in Wisconsin. In the last decade of the past century there was a marked increase in the tobacco crop of nearly all leading States, but the outstanding features were the very large increase in North Carolina and the addition of South Carolina to the list of important producing States. Tobacco had ceased to be a crop of importance in Missouri. In the decade 1900-1909 there was a temporary period of decreased production in most of the principal tobacco States from 1904 to 1907, inclusive, while the crop of 1909 was very large, with the principal increases in Kentucky, Ohio, Tennessee, Indiana, the Connecticut Vallev, and West Virginia. During the decade ended in 1919 there were further notable increases in production in North Carolina, South Carolina, Kentucky, Tennessee, Pennsylvania, and Connecticut. In 1918 the crop of Georgia began to increase considerably in size.

Differentiation into Distinctive Types.

The history of tobacco production in the United States has not been one of simple expansion, but rather, there has been throughout a tendency toward increased specialization. The use of tobacco for chewing and pipe smoking and in the forms of snuff, cigarettes, and cigars was prevalent among the natives when Columbus first visited America, but it is not clear whether these people recognized the special adaptability of different tobaccos for use in these different forms. At any rate, the early settlers in Virginia produced at first but a single fundamental type of tobacco for export to Europe, although this product soon came to be recognized as differing in its qualities from the tobaccos produced in the West Indies and South America by Spanish settlers. As its culture was carried from the first settlement at Jamestown into new territory it was seen that the changes in soil and climate resulted in important differences in the character of the tobacco produced. It gradually became more and more apparent also that these differences in the properties of the tobacco leaf due to soil and climatic influences greatly affected its adaptability for use in different forms, the product of one section, for example, being especially suitable for making smoking or chewing tobacco but perhaps not producing so acceptable a cigar as that of another section. It was learned, moreover, that desirable characteristics of the tobacco leaf resulting from local soil and climatic influences could be further accentuated by modifying the methods of growing and curing. Thus, through a process of gradual evolution tobacco culture has become highly specialized, each producing district furnishing a distinctive type of leaf especially adapted for certain uses, based ultimately on the tastes and preferences of the consumer. It is the accumulated experience of three centuries of tobacco culture that each of these types can be produced only under certain conditions of soil and climate, by using certain varieties of seed, and by employing special methods in growing and handling the crop.

Dark fire-cured and air-cured types.—The dark fire-cured types of to-day are fundamentally the same as the original Jamestown tobacco. The Indians taught the first settlers the use of open fires and smoke in curing the green tobacco leaves, and this method of curing, together with certain distinctive cultural practices adopted in the earliest days, is still followed. As tobacco culture was extended farther inland the modifications in character of leaf produced by the heavier, more clayey soils of the Piedmont region proved to be desirable, and as a consequence the culture decreased and was finally abandoned on the rich lowlands of the tidewater region originally employed. Thus the culture of this type was transferred to the uplands of the Piedmont section of Virginia. Fire curing also was practiced in southern Maryland in the earliest days, but later the process of air curing without the use of artificial heat was substituted there as well as in the upper counties of Virginia. The growing of these fire-cured and air-cured types was extended across the Alleghenies into eastern and southern Ohio, across Kentucky and northern Tennessee, and even beyond the Mississippi into Missouri, by pioneer settlers from Virginia and Maryland. From the beginning the dark fire-cured types have been distinctively export tobaccos, about 80 per cent of the total production going to foreign markets. The remainder is used mainly for snuff and for plug chewing. The dark air-cured types also always have been exported in



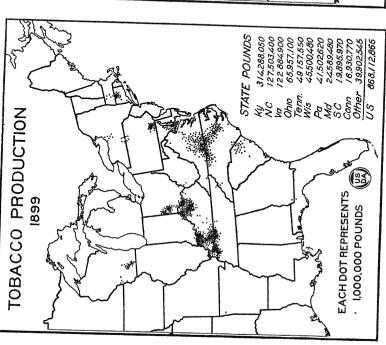


Fig. 6 -In the 10-year period ending with 1899 there was marked expansion in production in North Carolina to the eastward of the old producing district, this development extending also into eastern South Carolina. The crop of 1919 was very large, with principal increases in Kentucky, North Carolina, Tennessee, South Carolina, and Connecticut.

large quantities, but most of these types are far more important in the domestic manufacture of chewing tobaccos than are the fire-cured types.

Bright flue-cured tobacco.—As the early colonists pushed tobacco culture into the central border counties connecting Virginia and North Carolina it was found that the lightgray, comparatively infertile lands of that section produced a light-colored sweet leaf, which soon became popular as a chewing tobacco. After the War of 1812 an active foreign demand for mild spangled tobacco stimulated the production of this new type. Less heat and smoke were required for this tobacco than for the darker, stronger types, and about 1825 charcoal began to be used in place of open wood fires in order to secure lighter colors. Soon after the Civil War the use of flues in curing was adopted, thereby further increasing the demand for this type in the manufacture of chewing and smoking tobaccos and causing rapid expansion in production in southern Virginia and the north-central portion of North Carolina. Beginning about 1890, there was very rapid development in the culture of bright fluecured tobacco in the so-called new belt section of eastern North Carolina and South Carolina. During the past 15 years there has been further marked expansion in the production of bright flue-cured tobacco, and its culture has now been extended into southern Georgia. This type is chiefly used for the manufacture of chewing plug, granulated smoking mixtures, and cigarettes, and for export.

Cigar leaf.—In 1810 the manufacture of cigars from to-bacco imported from Cuba and Brazil began in a small way in Hartford County, Conn., and about 1825 it began to be recognized that the local conditions of soil and climate were adapted to the growing of cigar leaf. In 1833 the Maryland Broadleaf variety of tobacco was introduced and this marked the beginning of the extensive Broadleaf or Seedleaf tobacco industry which expanded rapidly about the middle of the last century not only in the Connecticut Valley but in Pennsylvania and in the Miami Valley of Ohio as well. Soon after the close of the Civil War the culture of cigar leaf rapidly developed in Wisconsin. About 1870 the so-called Havana Seed type of cigar leaf obtained from Cuba was introduced into the Connecticut

Valley, the Miami Valley of Ohio, and southern Wisconsin, and its culture developed rapidly in the next decade. During the past two decades there has been extensive development of the growing of cigar wrapper leaf under artificial shade in the Connecticut Valley and in the Quincy, Fla., district.

White Burley.—The extensive Burley industry owes its existence to the discovery of a new, distinctive variety of tobacco in Brown County, Ohio, in 1864. The great success of this variety in displacing the dark tobaccos which were grown at that time in north-central Kentucky and in counties of adjoining States along the Ohio River was due primarily to its special fitness for the manufacture of heavily sweetened plug for chewing. In recent years this type has found extensive use in the manufacture of cigarettes and smoking mixtures, and this has resulted in wider culture of the subvariety known as Stand-Up Burley.

Present Geographical Distribution, by Types.

Present localization of production of the principal types of tobacco is shown in Figure 7, except that areas in which production is scattering are not included. Cigar-leaf types are grown chiefly in the counties of Hampden, Hampshire, and Franklin, Mass.; Hartford, Tolland, Litchfield, and Middlesex, Conn.; Onondago, Chemung, and Steuben, N. Y.; Lancaster and York, Pa.; Darke, Miami, Montgomery, Preble, and Warren, Ohio; Dane, Rock, Vernon, Crawford, Columbia, and Trempealeau, Wis.; Gadsden, Fla.; and Decatur, Ga. The bright flue-cured type is grown chiefly in the southern tier of counties, Patrick, Henry, Pittsylvania, Halifax, and Mecklenburg, and the southern portions of Franklin, Charlotte, and Brunswick, in Virginia: the two upper tiers of counties of north-central North Carolina; including Surry and Yadkin to the west, and practically the entire eastern half of the State, excepting the immediate coast region; the counties of Marion, Horry, Dillon, Darlington, Florence, Lee, Sumter, Clarendon, and Williamsburg, S. C. There is a less concentrated production in several counties of southern Georgia, centering around and to the east of Coffee County, Burley is grown in the north-

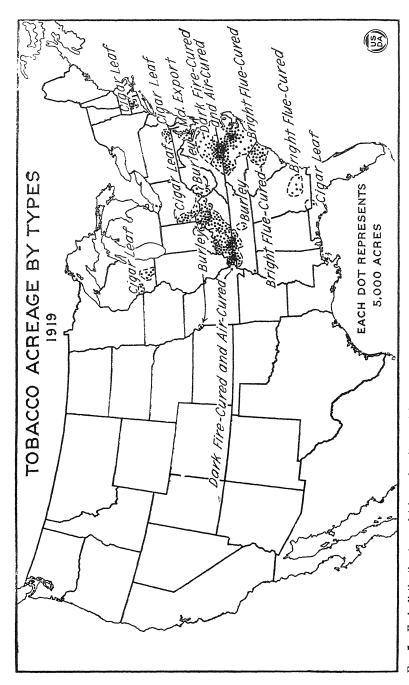


Fig. 7.—Each distinctive type of tobacco has its special requirements as to soil and climate and the present localization of production of the various types is the result of a long process of evolution and specialization.

central portion of Kentucky, including to the westward approximately the counties of Meade, Hardin, Hart, and Barren, and extending eastward as far as Greenup, Rowan, Powell, and Rock Castle; the counties of southeastern Indiana, southern Ohio, and westerly West Virginia which border on the Ohio River. Dark air-cured types are chiefly grown in Spencer and Warrick Counties, Ind.; the portion of Kentucky immediately westward of the Burley district and including, to the west, the counties of Daviess, McLean, Muhlenburg, Butler, Warren, and Simpson; the adjoining area of Tennessee, including the upper portion of Trousdale and Smith Counties; the counties of Caroline, Louisa, Hanover, Goochland, and a portion of Fluvanna, in Virginia, the latter section constituting the so-called Virginia sun-cured district. In addition, the counties of Prince Georges, Anne Arundel, Charles, Calvert, and St. Marys, in Maryland, produce a somewhat lighter-colored air-cured type. Dark fire-cured tobacco is produced in the portion of Kentucky to the west of the dark air-cured district, together with adjoining counties of Tennessee, including Houston, Dickson, Cheatham, but not Lake and Benton; the section of Virginia between the sun-cured and bright flue-cured districts and extending westward to the Blue Ridge Mountains.

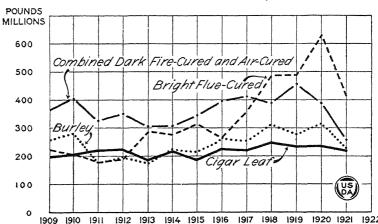
Factors Influencing Tobacco Production.

Production of Leading Types of Tobacco.

To arrive at a proper understanding of the significance of the increase in total production shown in Figure 2 it is necessary to examine the trend of production in the different types of tobacco. The annual production of the leading types for the years 1909–1921, inclusive, is shown in Figure 8. To facilitate comparison the several subtypes of dark fire cured and dark air cured are treated as a single group, since, for the most part, they are closely related. In this group are included (1) the fire-cured tobaccos of Virginia and the Clarksville and Hopkinsville, the Henderson, and the Paducah districts of Kentucky and Tennessee; (2) the air-cured tobaccos of the one sucker district of Kentucky, Tennessee, and Indiana, the so-called Virginia sun-cured district, and the Maryland and eastern Ohio export district.

It is quite apparent that for the period covered the aggregate production of cigar leaf has remained in a relatively stable position, even the general disturbance of the World War having had only a moderate influence on the production of this type. The average production was about 205,000,000 pounds during the five-year period 1909–1913 and 229,000,000 pounds in 1917–1921. The combined dark fire-cured and air-cured types also do not show any significant change of a permanent character, although there are rather wide periodic fluctuations. Average production for 1909–1913 was 350,000,000 pounds, and for 1917–1921 the average was 380,000,000 pounds.

The production of Burley shows a well-defined upward trend, the average for 1909–1913 being 215,000,000 pounds



TYPES OF TOBACCO: PRODUCTION, 1909-1921.

Fig. 8.—The bright flue-cured or cigarette type shows a remarkable increase in production in recent years and there has been an upward trend in the production of Burley. Production of the dark fire-cured and air-cured types and cigar leaf has become relatively stabilized.

as against 275,000,000 pounds for the period 1917-1921. The most striking fact brought out in Figure 8 is the remarkable increase in production of bright flue cured, the increase for the past 10 years being more than 100 per cent. For the years 1909-1913 the average was 215,000,000, while for the years 1917-1921 the average was 475,000,000. The sharp rise in total production of tobacco since 1913 (Fig. 2), therefore, is to be found chiefly in a moderate increase in the production of Burley and a very large increase in bright

flue cured. The causes for these differences in trend of production of the different types will be found in the discussion of exports and of consumption (pp. 448 and 450). Curtailment of tobacco production in foreign countries and increased domestic and foreign demand for American tobacco during and immediately after the World War, with resultant high prices, are reflected in some degree of increase in production of all types. In 1921 there was a marked reduction in production of all types except cigar leaf, which was less affected than other tobaccos by the postwar readjustment.

Position of Tobacco in the Farming System.

Tobacco is grown as a cash crop and has a relatively high value per acre. The average tobacco acreage per farm does not vary widely over the country, running 4 to 5 acres in the principal producing districts, with the exception of the highly specialized cigar-wrapper district of New England. In the latter district the acreage is about 8 acres for each tobacco farm, as reported in the 1919 census.

The same returns indicate that the tobacco acreage represents roughly 11 per cent of the total improved land on tobacco farms in Virginia, 17 per cent in North Carolina, and 8 per cent in Kentucky, while in Connecticut the tobacco acreage reaches 28 per cent of the improved land on the tobacco farms.

The labor requirements for tobacco culture are large, especially at certain seasons of the year, and this is an important factor in determining the tobacco acreage on the individual farms. While not all land on the average farm may be equally adapted to tobacco culture, the above facts indicate possibilities for large expansion if demand and prices should justify the shifting of labor and land from other crops to tobacco.

Sharply contrasting systems of cropping tobacco lands are found in different regions, and it is of considerable interest and importance to inquire into the effects of these contrasting cropping systems on the trend of acre-yields of tobacco. The tobacco-producing districts of Connecticut, Pennsylvania, Maryland, and North Carolina, representing two

regions of high yields and two of low yields, afford typical examples of these different cropping systems. In Connecticut tobacco is grown mostly on light sandy and sandy loam soils, which are not naturally fertile. Since the size of the average farm is quite small, tobacco ordinarily must be grown each year on the same land. In this instance rapid development of the plant to large size is essential for success, and to accomplish this result resort is made to exceedingly heavy applications of commercial fertilizers and liberal use of barnyard manure and lime. The immediate effect of this highly intensive one-crop system, together with favorable climatic conditions, has been to give large and increasing yields, but it is significant that in recent years the yield has been steadily declining. (Fig. 9.) It is known that this decline in yield is due, at least in part, to the appearance of root diseases of tobacco as an incident of the cropping system employed. The high yields of the Lancaster, Pa., district are obtained under a wholly different farming system. The tobacco soils, which are mainly much heavier than those of the Connecticut Valley, are better adapted to diversified farming, and only a small portion of the total acreage is in tobacco each year. A well-balanced cropping system is prac-

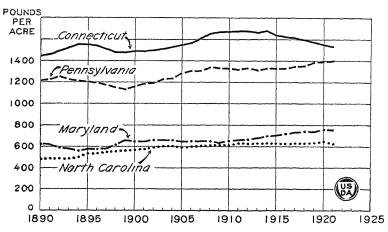


Fig. 9.—Under an extensive system of culture on soils of medium fertility yields are being successfully maintained in Maryland and North Carolina, though at low levels; in Pennsylvania a diversified, intensive system is maintaining yields at a high level, while in Connecticut a highly intensive one-crop system apparently is failing to do so.

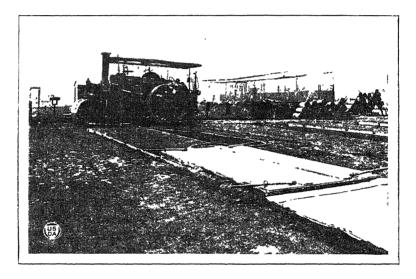
ticed, which includes the growing of wheat, grass and clover, and corn in rotation with tobacco. The winter feeding of steers is an important feature of the system, since it utilizes on the farm the straw, hay, and grain produced and provides the manure needed for maintaining soil productiveness. This cropping system, moreover, provides a fair distribution of labor through the year. Figure 9 discloses the fact that under the Lancaster system there has been since 1899 a decided upward trend in yield, thus indicating the soundness of this system of tobacco culture.

In both the Maryland export and the North Carolina bright flue-cured districts soils which are naturally rather infertile are commonly used for tobacco, and it is difficult to secure high yields by application of intensive methods without sacrificing quality of product. In Maryland much land available for tobacco culture remains untilled each year. The prevailing practice has been to grow two or more crops of tobacco on the land, mostly without manure or fertilizer, in some instances with an intervening crop of wheat. crop of corn may then follow, after which the land remains idle for a period of years in order that its productiveness may be restored. Under this system of resting the land the yield of tobacco has remained almost constant at a level somewhat less than 700 pounds, apparently with a slight upward trend in recent years, which is probably due to use of more fertilizer and better varieties of tobacco. In the North Carolina tobacco district there is no systematic rotation of crops as a general practice. The rule has been an alternation of continuous cropping to tobacco and resting the land for one or more years, thus resembling the practice in Maryland. As the old practice of constantly clearing new land for tobacco decreased it became necessary to rely more largely on commercial fertilizers, for resting the exhausted soils for short periods in itself is not sufficient to restore productiveness. Fertilizers are much more generally and more liberally used than in Maryland. During the earlier portion of the period covered (Fig. 9) there was an upward trend in yield, probably due to increased use of fertilizer, and since that time the acre yield has remained quite stationary.

416 Yearbook of the Department of Agriculture, 1922.

Influence of Soil and Climate on the Quality of Tobacco.

Probably no other crop is so greatly affected in quality by soil and climate as is tobacco. Climate is a factor of importance in the general distribution of tobacco culture in the United States and affects especially the quality of the crop. The general tendency in northern latitudes is toward the production of a large, relatively thin leaf, without pronounced aroma. Thus northern climatic conditions favor



STEAM STERILIZATION OF TOBACCO SEED BEDS.

Fu: 10.—Sterilizing tobacco seeds with high-pressure steam has recently come into wide use in northern tobacco-growing districts and is adapted to all sections. This process is an important aid in controlling both diseases and weeds in the seed bed.

the production of cigar types possessing these leaf characteristics of large size, thinness, and weak aroma. In southern districts the tendency is toward the production of a somewhat smaller, more aromatic leaf of heavier body, as seen in the cigarette, pipe-smoking, chewing, and export types.

The physical and chemical properties of the soil, however, undoubtedly constitute the most potent factor in influencing the development of those properties of the leaf which determine its usefulness in the trade. Both the surface soil and the subsoil are of importance in this particular. In gen-

eral, light sandy and sandy loam soils of low water-holding capacity and low content of soluble mineral matter tend to produce a thin leaf of relatively large size, light in color and body, fine texture, and weak aroma. Heavier soils, containing more silt and clay, tend to produce a leaf of small size, dark color, heavy body, and strong aroma. So pronounced and important is the influence of soil on the quality of tobacco that commonly certain restricted localities within the principal producing districts enjoy a high reputation

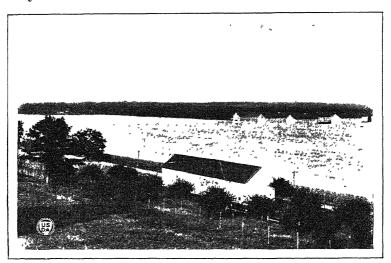


TRANSPLANTING TOBACCO BY MACHINE.

I'm. 11.—The machine transplanter, which is widely used in the Cigar-leaf and Burley districts, saves labor and insures a better stand, particularly in dry weather. It is not adapted for very small fields or where the land is uneven.

for the special merit of their tobacco. In the present state of our knowledge of the subject, however, it is not possible to analyze fully the remarkable influence of these seemingly slight differences in soil on the quality of the tobacco produced.

The cigar wrapper and binder types of the Connecticut Valley and of the Quincy, Fla., districts are grown on sandy and sandy loam soils containing but little clay in the subsoil and having a low water-holding capacity. The cigar binder-leaf soils of Wisconsin are sandy loams, loams and light clay loams, while the cigar-filler soils of Pennsylvania and Ohio are silt and clay loams, the Pennsylvania soils being largely of limestone origin. The filler soils are considerably heavier and have a higher water-holding capacity than the binder-leaf soils. Burley attains its highest development on the highly fertile phosphatic limestone soils of the bluegrass region of Kentucky and in southern Ohio. The dark fire-cured and air-cured tobaccos of Kentucky, Tennessee, and Virginia are grown largely on heavy silt and clay loams having a high water-holding capacity. The fluecured type is grown on gray sandy and sandy loam soils of low natural fertility. The body and texture of the fluecured leaf depend largely on the texture of the subsoil on which it is grown. The cigarette and granulated pipesmoking grades are obtained chiefly on the lighter soils with but little clay in the subsoil, while the plug-filler and wrapper grades are obtained on somewhat heavier soils with more clay in the subsoil.



CULTURE OF CIGAR WRAPPER TOBACCO UNDER ARTIFICIAL SHADE.

Fig. 12.—The growing of high-grade cigar wrapper leaf from Cuban seed under an artificial shade of cheese cloth or of slats is an outstanding recent development of cigar tobacco production. The field covered with cloth here shown is 1½ miles long.

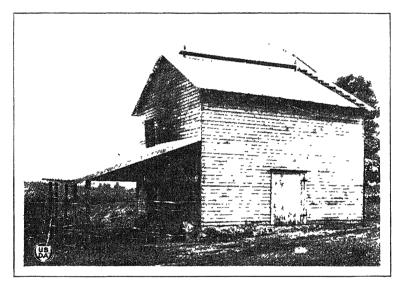
Effect of Seasonal Conditions on Quality and Yield.

As a rule the best quality of tobacco in conjunction with satisfactory yields is obtained when seasonal conditions are such as to cause rapid, uninterrupted growth of the plant. Among the chief requirements are fairly high temperatures and a moderate, evenly distributed rainfall. The tobacco plant is not readily killed by drought, but quickly succumbs to a water-logging of the soil. A comparatively dry season tends to reduce the size of the plant as a whole and that of the individual leaves on the plant, and to produce an abnormally thick leaf of close grain, containing an excess of gum and having poor combustibility. The yield of such a crop is greater than would be indicated by the size of the plant, and the leaf is resistant to decay in the processes of fermenting and aging. A comparatively wet season, on the other hand, tends to produce large growth and thin, tender leaves. deficient in gummy matter, having free burning properties, but susceptible to injury through decay in the processes of curing and fermenting. The yield of such a crop is usually below that indicated by the size of the plant. Tobacco in the green state is seriously damaged by killing frost or freezing temperatures, and there is always the possibility of partial or total loss from early frost in northern regions. Tobacco is peculiarly susceptible to great injury from hail and wind storms, and locally there are important losses from these causes each year.

A study of the correlation of weather and yield of tobacco in Ohio and Kentucky extending over a long period of years indicates that for best yields in tobacco districts of the Ohio Valley the weather conditions as compared with the normal climate in that region should be as follows: May should be moderately dry for a good seed bed, and cool to harden the tobacco plants. June should be moderately warm and wet to insure growth when the plants are set out, although the warm and wet weather may develop injurious parasitic diseases. July rainfall and temperature should be about normal, as too much rain interferes with cultivation; and if the rainfall is inadequate, the temperature should be below the normal. August should have rain enough to produce a good-sized leaf after topping.

420 Yearbook of the Department of Agriculture, 1932.

Warm and wet weather makes the best growth, but is more likely to cause the development of leaf spot. Hot and dry weather is very detrimental; hence if the rainfall is less than normal the month should be cool. If the growing season is moderately wet, with a uniform supply of moisture, the best growth will be with the temperature somewhat above normal. But if drought prevails or frequently oc-



MODERN BARN FOR FLUE CURING.

Fig. 13.—These bains are of small size and are provided with a system of flues for regulating temperature by radiant heat. Ventilators are provided at the base and top of bain. This system of curing is used in the bright flue-cured or cigarette tobacco districts.

curs, the best results are obtained with the summer somewhat cooler than normal.

Importance of Fertilizers.

A large portion of the tobacco crop is produced on soils which are naturally rather infertile, while the tobacco plant requires a fairly generous supply of plant nutrients if it is to obtain proper growth, hence the necessity for extensive use of fertilizers. Moreover, the acre value of tobacco is sufficiently high to justify considerable expenditure for fertilizers. The rational use of fertilizers in tobacco culture is a complicated problem because of the marked effect which

they may have on the quality of the tobacco produced. Again, these effects of fertilizers on the quality of the tobacco are materially modified by fluctuations in seasonal conditions, especially in amount of rainfall, thus making more difficult the problem of selecting the proper fertilizer. It is frequently profitable to apply fertilizers to the tobacco crop at rates considerably in excess of the immediate requirements of the tobacco itself, thus providing for an important residual effect on other crops following in the rotation which in themselves would not have a sufficiently high acre value to warrant their receiving direct application of the necessary fertilizer.

The best Burley soils of Kentucky and adjoining States are highly productive, and on such soils, properly handled, it is not ordinarily necessary to apply commercial fertilizers to the tobacco crop. In Pennsylvania and Wisconsin barnyard manure is widely used in lieu of commercial fertilizers, while in the Connecticut Valley both manure and fertilizers are commonly used. In nearly all remaining tobacco-growing districts much reliance is placed in commercial fertilizers. This is particularly true of the bright flue-cured districts. The rate of applying fertilizers ranges from 1 to 2 tons per acre in the Connecticut Valley, 600 to 1,000 pounds in the bright flue-cured district and the cigar-tobacco district of Ohio, and 300 to 500 pounds in most of the dark fire-cured and air-cured districts.

The so-called complete fertilizers are commonly used, but their composition varies very widely in different localities. Cigar tobaccos require rather heavy applications of nitrogen, while the dark fire-cured and air-cured types and Burley require somewhat lower percentages of this element in the fertilizer. For bright flue-cured leaf only the minimum quantity of fertilizer nitrogen required for proper growth of the plant is used. Phosphoric acid is usually applied in quantities in excess of actual requirements for growth in order to promote proper ripening. Liberal applications of potash are usually profitable because of favorable action on the quality of the tobacco. Under certain conditions magnesia is an important constituent of the fertilizer. Lime may be beneficial or injurious, depending on soil conditions and the type of tobacco.

Yield Per Acre in Relation to Quality of Product.

A characteristic feature of tobacco culture is that the returns per acre to the grower commonly depend quite as much or even more on the quality of the leaf than on the yield obtained because of the very wide range in prices for the different grades of leaf. The highest returns are usually derived from maximum yields of the finer grades of leaf rather than from maximum total yields. In some types, such as most cigar tobaccos and dark fire-cured and air-cured leaf, moderately high yields are commonly asso-

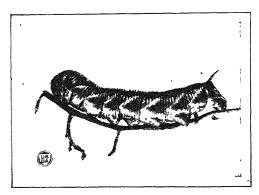


FIG. 14.-TOBACCO HORNWORM.

ciated with high quality, but this is not true of some other types. In the case of bright flue-cured, now the world's leading type, high quality of product is conditioned in such way by the physical and chemical properties of the soil that high yields are sel-

dom associated with best quality. In substantially all types rank, coarse growth is incompatible with high quality and therefore with maximum returns per acre. For these reasons highly intensive methods involving enrichment of the soil are applicable to tobacco culture only under certain conditions and limitations.

Insects Affecting Tobacco.

By far the most serious insect pests of tobacco in the United States are the hornworms, *Phlegethontius quinque-maculata* (northern tobacco worm), and *P. sexta* (southern tobacco worm). The hornworms feed voraciously upon growing tobacco leaves and grow to a large size. They may be controlled by dusting with powdered arsenate of lead.

In the shade-grown tobacco fields of Georgia and Florida damage by the tobacco budworm, *Chloridea virescens*, is of primary importance. The eggs are deposited in the buds of the plant, and a single larva may eat through several leaves.

As the leaves grow larger the holes likewise become larger, and the leaves are rendered unfit for wrappers. For control, apply arsenate of lead and corn meal (1 pound of arsenate of lead to 75 pounds of corn meal) to the buds twice a week until the plants are topped.

The tobacco flea beetle (Fig. 16), *Epitrix parcula*, attacks plant beds and young plants

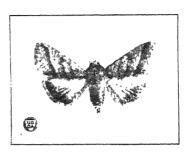


FIG. 15.—TOBACCO BUDWORM,
ADULT FORM.

in the field and frequently injures tobacco until it is carried to the barn. The leaves are riddled with holes, and frequently young plants are killed outright. Apply arsenate of lead or Paris green.

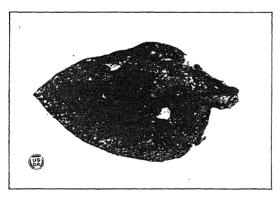


FIG. 16.—INJURY FROM TOBACCO FLEA BEETLE.

Other insects which injure the growing crop are cutworms, splitworms, tobacco thrips, several species of grasshoppers, and other minor pests.

Very serious injury to stored and manufac-

tured tobacco is caused by the tobacco beetle, Lasioderma serricorne.

Diseases of Tobacco.

The tobacco plant is subject to a number of diseases, some of which are very important factors in lowering yield per

Distribution of Cost.1

The principal items of cost in tobacco production are man and horse labor, land rent, and cost of upkeep and maintenance of the tobacco barns. These combined costs averaged from 75 to 93 per cent of the total costs in the three districts under discussion. Of these, man and horse labor was greatest, averaging from 45 to 65 per cent of the total cost. In 1920 the cost of the man labor was \$113 per acre in the Burley area, \$64 in the dark fire-cured area, and \$67 in the Georgia bright area (Fig. 18). This difference in cost per acre was

DISTRIBUTION OF COST OF PRODUCTION, THREE TOBACCO DISTRICTS, 1920.

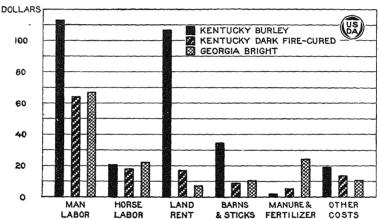


Fig. 18.—Variations in the items of cost in growing an acre of tobacco in the Kentucky Burley, Kentucky dark fire-cured, and Georgia bright flue-cured districts for 1920. Costs of man labor, land rent, and curing barns were relatively high in the Burley district, while the cost of fertilizer was relatively high in the Georgia flue-cured district.

due less to variations in the amounts of labor than in the wages paid. The average rate per day paid for man labor

² The following data on Georgia bright tobacco are for the 1920 crop and are taken from a study of the cost of producing bright tobacco in south-central Georgia by the Georgia Agricultural College, cooperating with the United States Department of Agriculture. For complete report consult Bulletin 250, Georgia Agricultural College, Athens, Ga.

In Kentucky a four-year study of the cost of producing Burley and dark fire-cured tobacco was begun in 1919 and was completed in 1922. The Burley cost figures were obtained near Lexington and the dark fire-cured figures near Hopkinsville. This work was done by the University of Kentucky, cooperating with the United States Department of Agriculture. Bulletin 229, for the crop of 1919, and preliminary reports for succeeding crops have been issued by the Kentucky Agricultural Experiment Station, University of Kentucky, Lexington, Ky.

was \$3.44 in the Burley area, \$2.58 in the dark fire-cured area, and \$1.67 in the Georgia area. The horse-labor cost for each area varied slightly with regard to cost per day and total days required. As an item of cost horse labor was of relatively more importance in the Georgia bright-tobacco area, where it was 16 per cent of the total cost, as compared to 7 and 14 per cent in the Kentucky Burley and dark fire-cured areas.

Distribution of Labor.

The amounts of man and horse labor required to grow and market an acre of tobacco vary considerably with regard

DISTRIBUTION OF LABOR IN GROWING OF TOBACCO, THREE PRODUCING DISTRICTS.

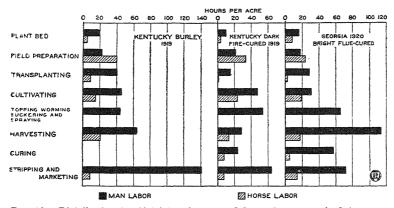


Fig. 19.—Distribution by districts of man and horse hours required to grow an acre of tobacco. Differences in methods of growing and handling the crop cause rather wide variations in labor requirements, especially in harvesting, curing, stripping, and marketing in the different districts.

to type. Records from the three areas under discussion indicate that an average of 262 hours of man labor were required to produce an acre of Kentucky dark fire-cured tobacco, 375 hours to produce an acre of Burley tobacco, and 403 hours for the production of an acre of Georgia bright tobacco. The amount of horse labor required per acre was found to be 89 hours in the dark fire-cured area, 98 hours in the Burley area, and 90 hours in the Georgia bright area.

The chief variations in labor requirements are found in harvesting, curing, stripping, and marketing. (Fig. 19.) In Georgia the leaves are pulled from the stalk, while in both Kentucky areas the tobacco plant is cut. Pulling or

priming requires a greater amount of labor than cutting, as in the former case the field must be gone over several times. In Georgia curing tobacco required an average of 59 hours of man labor per acre. In the Kentucky dark fire-cured area 24 hours were required per acre, while in the Burley area, where tobacco is air cured, the labor requirement for curing was negligible. Preparing for market and marketing the crop required about 38 per cent of the total man labor in the Burley area, which was considerably more than required by any other operation. In the Kentucky dark fire-cured area about 25 per cent of the total labor was for stripping and marketing. In the Georgia bright area, where the tobacco is picked, only 18 per cent of the total labor was for preparing and hauling the crop to market.

Land Rent.

The Kentucky Burley tobacco area is in the limestone region of the State. This land is high priced, especially when compared with the tobacco land in the Kentucky dark fire-cured and the Georgia bright areas. In 1920 the use of land in the Kentucky areas as determined by its cash rental value averaged \$107 per acre in the Burley area and \$17 in the dark fire-cured area. In the Georgia bright area the rental charge was figured at 10 per cent of the land value and amounted to \$7.20 per acre. (Fig. 18.) While undoubtedly land rents are lower now, especially in the Burley area, these figures reflect somewhat the rental value of the land in the three areas as measured by the type of tobacco grown and by the amount and quality of yield per acre. In the Burley area land rent was 34 per cent of total cost, in the dark fire-cured area 18 per cent, and in the Georgia bright area 5 per cent.

Barns and Sticks.

The average cost of maintenance, depreciation, and interest on investment in barns and sticks varied from 7 to 10 per cent of the total cost of producing tobacco in these areas. In Georgia relatively small tobacco barns are required. They are constructed principally of logs and fitted with fire boxes and flues. The flues are short lived, and the fire boxes

require constant repairs, which add materially to the cost of upkeep. In the Burley area the barns are well built and are larger and more expensive than in the Georgia area. Burley tobacco is an air-cured type and requires greater space and better ventilation, so that the barns must be relatively large. In the dark fire-cured area of Kentucky the barns are similar to those in the Georgia area, with the exception that flues and fire boxes are not used. The tobacco sticks are sometimes produced on the farm and sometimes purchased. A charge for sticks for each region is included in the total barn charge.

Fertilizers.

The records indicate that in both Kentucky areas very little expense was incurred for commercial fertilizer and barnyard manure. During the relatively high prices of 1920 the cost for commercial fertilizer and manure averaged less than \$2 per acre in the Burley area and slightly over \$5 per acre in the dark fire-cured area. (Fig. 18.) In Georgia bright tobacco is grown on thin sandy soil and requires a large amount of complete commercial fertilizer. Very little barnyard manure is used in this area, as its use tends to produce a rough, coarse plant. During 1920 the average application of fertilizer in the Georgia bright-tobacco area cost slightly over \$24 per acre. Fertilizer costs constituted 1 per cent of the total cost in the Burley area, 4 per cent in the fire-cured area, and 17 per cent in the Georgia bright area.

Other Costs.

These costs are made up of machinery, insurance, a charge for hiring a tobacco demonstrator, and miscellaneous cash costs.

Tobacco farms as a rule have a relatively small investment in machinery. Tobacco-transplanting machines were used to a limited extent in each area and represent a considerable part of the machinery charge. Including interest, depreciation, and repairs, the machinery cost averaged only 1 to 2 per cent of the total cost of producing tobacco in 1920.

In both Kentucky areas a charge for hail and fire insurance was made for each farm. The rate used in calculating this charge was determined from the farms having an actual cash cost for such risks. This item represents from 4 to 5 per cent of the total cost of tobacco production in these districts. In the Georgia area no charge was made for hail and fire insurance.

Miscellaneous costs are made up of minor items, such as canvas. spray material, wood or coal for bed preparation and curing, and small cash payments for plants or tobacco seed. While these items are absolutely necessary in the production of the crop, they represent a relatively small proportion of the total cost of growing an acre of tobacco and averaged from 2 to 3 per cent of the total costs in the various areas.

In the Georgia bright-tobacco area an experienced tobacco man was hired for 1920 to instruct the farmers in methods of growing and handling the crop. Such men were hired by only a part of the farmers included in this study. In certain instances the demonstrator received 10 per cent of the net receipts from the tobacco crop after deducting warehouse charges, in other cases a flat rate of \$8 per acre was paid for his assistance. The average for all farms in 1920 was \$5.15 per acre, which was about 4 per cent of the total cost of growing the crop.

Relation of Yield to Cost.

Costs vary not only on different tobacco farms for a particular season, but also on the same farm from year to year. Such variations may be due to unfavorable weather, to diseases, to insect pests, or to the management of the operator. Variations in the cost of producing a pound of tobacco are due to variations in the cost expended per acre and in the vield obtained. A grouping of the tobacco records according to an increase in yield per acre shows that the cost per acre increased with yield and the cost per pound de-(Fig. 20.) It was found that in the Kentucky Burley area for 1919 the farms producing from 600 to 1,000 pounds per acre had an average cost of \$237 per acre and 30 cents per pound, while those that yielded over 1,500 pounds per acre (averaging 1,580 pounds) produced at a cost of \$330 per acre and 24 cents per pound. In the Kentucky dark fire-cured area cost increased from \$118 per acre for the farms having an average yield of 393 pounds to \$136

for the farms averaging 1,306 pounds per acre, but the cost per pound for the low-yielding group was 30 cents as compared to 10.5 cents for the high-yielding group. It must be remembered, however, that a rank, coarse growth is quite often associated with poor quality and low returns per pound. Therefore a reduction in cost per pound through larger yields should not be encouraged to the extent of sacrificing the quality.

Financing Tobacco Production.

Tobacco is a cash crop of high acre value, requiring much hand labor but little machinery, and therefore is well adapted to a tenancy system. In some northern tobacco-

RELATION OF YIELD PER ACRE TO COST OF PRODUCTION THREE TOBACCO DISTRICTS.

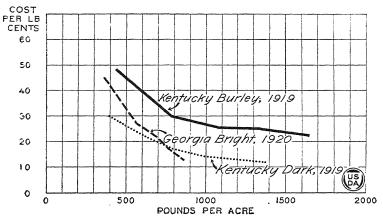


Fig 20—Influence of yield per acre on the cost of producing a pound of tobacco. While the cost per acre usually increases with the yield the cost per pound tends to decrease. High yields involving a rank, coarse growth, however, are often associated with poor quality and low returns per pound.

growing sections most of the tobacco farms are operated by owners, while in other sections probably as much as half of the total production is under some form of tenancy. In some sections considerable tobacco is grown on a cash rental basis in which the owner furnishes only the land. Under the share rental system, which is rather common in several districts, the tenant may operate the entire farm or he may be simply a "cropper," growing only tobacco. In both cases

the tenant usually receives half the value of the crop. The principal item furnished by the tenant is hand labor, the division of most other items between landlord and tenant varying considerably. Under ordinary circumstances probably a majority of tobacco growers owning their farms require no financial aid in producing the crop. When such aid is needed it is usually extended by local banks on personal notes without indorsement. Mortgages on live stock or crop liens are not commonly given as security for cash advances during the crop year. The tenant in some cases is financed entirely by the farm owner, who is reimbursed when the crop is sold. In many cases, however, the tenant borrows from local banks on his personal note, which is to be retired when the tobacco is sold and which usually must bear indorsement. In some sections merchants and dealers extend credit to growers for fertilizers and implements.

In the Burley district of Kentucky the majority of the farms are operated by the owners, but the tobacco crop is produced largely by croppers, who usually receive half the proceeds, except where the owner furnishes teams and machinery, in which case the cropper's share is one-third the proceeds. Similar conditions exist in western Kentucky and Tennessee, except that a somewhat larger proportion of the crop is produced by farm owners. Financing tobacco production in these States is accomplished in much the same way as in northern tobacco-growing districts.

In the South Atlantic States, more particularly in the Coastal Plains region, the percentage of tenancy is very high on tobacco farms, with a large proportion of owners nonresident on the farm. The tenant's share of the crop is one-half or two-thirds, depending on whether the landlord furnishes all or only one-third the fertilizer used, the tenant in both cases furnishing labor, teams, and machinery. The tenant is financed chiefly by the landlord or the local supply merchant, who is also a fertilizer dealer. Crop liens and chattel mortgages are commonly taken as security. In the Piedmont section the farms are smaller, and a larger proportion of owners operate their farms. Under the rental agreement chiefly employed, the tenant furnishes teams, machinery and labor and three-fourths of the fertilizer and receives three-fourths of the crop. The tobacco crop is

grown more largely on a cash basis. Larger landowners borrow from local banks and furnish their tenants, so that crop liens are not extensively employed.

Tobacco Marketing.

The marketing of tobacco varies considerably in different tobacco-producing sections of the country. In general there are three methods—the auction system, farm selling, and cooperative marketing.

The auction system is practiced principally in Maryland, Virginia, North Carolina, South Carolina, Georgia, Tennessee, Kentucky, West Virginia, southern Ohio, Indiana, and Missouri. Most tobacco produced in the cigar-leaf sections of Wisconsin, Ohio, Pennsylvania, Florida, Georgia, and the Connecticut Valley is marketed on the farm. Cooperative marketing is practiced more or less in every tobacco-producing section of the country. There is only a small amount of tobacco that is not marketed by one of these methods.

Preparation of Tobacco for Sale Under Auction System.

In preparing tobacco to be sold at auction, as soon as the tobacco is cured it is brought into a soft, pliable condition and assorted according to quality, color, length, and other factors. Where the tobacco is cured on the stalk the leaves must first be stripped from the stalks for assorting. The number of lots made by each producer varies considerably, depending upon the accuracy with which the tobacco is assorted and also upon the size and character of the crop. From 5 to 12 lots are usually made from each curing or barn of tobacco. Except for a general knowledge of the qualities of tobacco farmers have no guide in this assorting process. In most cases they separate their tobacco into lots of similar character without knowing to what grades the tobacco belongs or for what use the tobacco is suited. This being true, the farmer is at a loss to know the market value of his tobacco even after carefully assorting it. The principal reason for this condition is due to the fact that there are no generally recognized standard grades for tobacco.

After the tobacco is assorted into various lots by the farmer it is tied into hands, or bundles, as they are some-

times called, each hand containing 5 to 25 leaves. The hands are then hung on laths or sticks so that they can be handled easily without breaking or tangling the tobacco. The tobacco is then conditioned for market. Tobacco is usually conditioned on the farm in one of three ways, (1) by hanging it loosely in an open shed during a warm moist day, (2) by hanging it in a damp cellar or steam room, (3) by sprinkling it lightly with water and packing it into a bulk. In conditioning for market the general tendency is to put too much moisture in the tobacco, especially when it is sprinkled, and sometimes it is delivered wet and badly bruised. To be in the best marketable condition the tobacco should contain from 15 to 20 per cent of moisture.

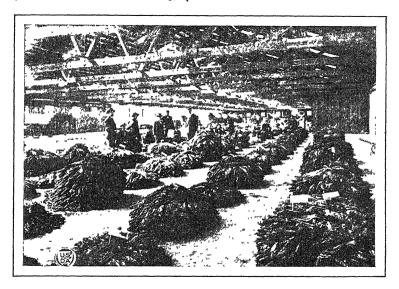
The Auction Methods of Selling.

Tobacco is sold at auction in three ways—by publicly selling loose or unpacked tobacco to the highest bidder, by publicly selling in packed form to the highest bidder, and by closed-bids auction of packed tobacco.

The loose-leaf auction system.—The first method, often referred to as the loose-leaf auction system, is the method by which the majority of tobacco produced in the United States in the past two decades has been sold. Practically all of the auction markets of the country operate on the loose-leaf auction plan, with the exception of Baltimore, Md., which is a packed-tobacco market operating under the closed-bid auction plan, and Louisville, Ky., which is a packed-tobacco market operating on the public-auction plan. The market at Cincinnati, Ohio, is operated principally on the loose-leaf auction plan, but it has also a public auction market for packed tobacco.

As a rule the tobacco is taken to the loose-leaf auction market on the laths, where each lot is stripped from the laths and placed into a large flat-bottomed basket. The baskets containing the tobacco are then weighed and arranged according to quality in rows on the floor of a loose-leaf auction sales warehouse. In some markets, instead of using baskets, the lots are merely weighed and placed in piles on the floor of the warehouse. On each basket or pile is placed a ticket showing the name of the farmer who owns the tobacco, the number of pounds contained in the lot, and

the consecutive number given to the lot. The tobacco is then sold in piles or lots ranging from 10 to 1,500 pounds to the highest bidder at public auction. As the sale proceeds from basket to basket a clerk of the warehouse enters on each ticket the price per pound at which the tobacco is sold, the name of the buyer, and the grade assigned to the lot by the buyer. As a rule, the buyers for the large companies are governed in their bids entirely by their private grades, so it becomes largely a matter on the auction floors



LOOSE LEAF FLOOR OF AUCTION SALES WAREHOUSE.

Fig. 21.—The different lots of tobacco as brought in by the farmer are weighed, properly tagged, and arranged in piles on the warehouse floor according to grade, usually after having first been placed in flat-bottom baskets. At the appointed hour the piles are auctioned off in rapid succession. The warehouseman, after deducting certain fees, pays to the farmer the net proceeds and collects this amount from the buyer.

for the buyer first to determine to which of his grades, if any, a certain lot of tobacco belongs. Having determined the grade, he knows the limit that his company allows him to bid on the lot. Each buyer or manufacturer has for his own use a private system of grades. After the tobacco once leaves the farmer's hands it is handled almost entirely by grade.

In some of the larger markets the sales proceed very rapidly. In many markets the local board of trade requires the auctioneer to sell as high as 240 lots of tobacco in an hour's time. After the sale is over the farmer has a right to refuse the price offered, in which case he can either have the tobacco put up at auction the second time or have it removed from the warehouse for sale elsewhere. If the price offered is accepted, the auction-sales warehouseman renders the farmer an account, showing the number of pounds and the price of each lot sold, and gives him a check for the total amount of the sale, less the warehouse charges, which usually include an auction fee, a weighing charge, and a commission for selling.

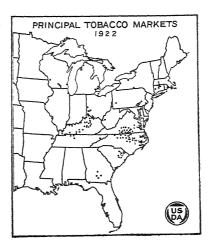
Each buyer removes the tobacco purchased by him from the auction-sales warehouse to a redrying plant or packing house, where the tobacco is placed in a safekeeping condition and packed into hogsheads, ready for storage or shipment. A large percentage of the tobacco is bought direct by the manufacturer, in which case the tobacco, after being conditioned and packed, is usually shipped to the private-storage warehouse of the manufacturer, where it remains in storage until it is ready to be manufactured. The large amount of tobacco bought for export trade is shipped abroad for storage. Most of the independent buyers have their tobacco stored in public storage warehouses, where the tobacco is held for resale. In such cases tobacco is usually resold on samples which are taken from the hogsheads of tobacco while in storage.

Selling in packed form at public auction.—Tobacco to be sold at public auction in packed form is prepared by the farmers in the same way as tobacco to be sold under the loose-leaf auction system, except that it is packed into hogsheads or tierces containing from 500 to 2,000 pounds and then shipped to sales warehouses. When tobacco is offered for selling, the packages are arranged in rows on the floor of the warehouse in very much the same manner that the baskets are arranged on the floor of a loose-leaf auction warehouse. The packages are then opened up in a manner that will not disturb the form of packing. The tobacco is then sold at public auction as the buyers pass from lot to lot examining and bidding on the tobacco. When the sale is

over the lots are placed back into the same containers and returned to storage, where the tobacco is held for resale or manufacture by the new owner.

The closed-bid auction method.—Under the closed-bid auction plan the packages are prepared in the same form as when the tobacco is sold in packed form, but the containers are opened up and sampled when they are received at the warehouse. Samples are made up of from four to nine hands drawn from different parts of the package and are labeled to preserve the identity of the sample and sealed to prevent

substitution. At some warehouses these samples are drawn and sealed by persons who are licensed under the United States warehouse act for the purpose. The samples are then displayed by the broker or commission merchant to whom the tobacco was consigned for sale. Each buyer enters on a slip of paper, opposite the number of each sample, the price per pound which he is willing to give for the lot rep- Fig. 22.—Market centers for first-hand resented by the sample and drops it into a box. At the end of the day the box is opened and the tobacco is sold to the buyer who offers the highest price.



sales of leaf tobacco are located mainly within the principal producing districts. Where the loose-leaf auction system of selling prevails there are usually numerous smaller markets, in addition to the larger market centers.

The distribution of principal markets for the first-hand sale of leaf tobacco is shown in Figure 22.

Farm Selling of Tobacco.

Possibly next to the auction-sales method of selling tobacco the most general practice is to sell the tobacco on the farm to buyers who visit producing districts. In most sections in which tobacco is thus sold the farmer makes little

attempt to assort his tobacco with respect to quality. As soon as the tobacco is cured, the farmer watches an opportunity when he can find the tobacco in a natural condition, soft enough to be handled without breaking. He then takes the tobacco down from the barns or sheds, strips the leaves from the stalks, and ties them roughly into large hands, which are packed into bundles of approximately 100 pounds each. Usually before the tobacco is taken down from the barns or after it has been placed into bundles it is examined by country buyers and bought, but very often it is bought at a general average price without being examined. tobacco is then delivered to a place designated by the buyer. where the bundles are opened up, the hands untied, and the tobacco assorted according to the buyer's grades. tobacco is then retied into hands and conditioned for storage. After conditioning the tobacco is ordinarily packed into cases averaging about 300 pounds and placed in storage warehouses.

After the tobacco has passed through the spring sweat the cases are opened up and sampled, at which time it is offered for sale to the manufacturer. The tobacco is usually sold by the dealers according to the quality of each lot. whereas the farmer sells the tobacco unassorted for a general average price. In some instances the tobacco is bought by representatives of the manufacturer direct from the farmer, in which case the manufacturer has the tobacco assorted and packed for storage in the same manner as is ordinarily practiced by the independent country buyer. The contract method of buying is practiced to a large extent in many of the cigar-leaf producing sections. Very often the country buyers purchase a large percentage of the year's crop before it is harvested, the farmer agreeing to deliver the tobacco after it is produced, cured, and packed into bundles.

In all sections in which farm selling is practiced the farmers have practically no conception of tobacco grades, and very few realize the wide variation in the prices of tobacco of different qualities. Their main source of information as to the value of tobacco is the price received by neighbors, which is usually a flat price of so many cents per pound for all qualities of tobacco. The farmer who

sells his tobacco at an average of 30 cents has very little idea what proportion of it has a market value of from 3 to 5 cents per pound and what from 80 to 90 cents per pound. This is due to the fact that there are no standard grades by which the farmer can be governed. With tobacco varying in price from 1 cent to \$2 per pound, it is not practical for a farmer to estimate with any degree of accuracy the market value of his tobacco without the use of some uniform system of grades. Neither is it possible for market quotations to be of much value without standard grades.

Cooperative Marketing.

Cooperative marketing has followed principally three general lines: Cooperative packing, cooperative sales agencies, and cooperative pooling.

Cooperative packing.—In many sections farmers have found that it was impracticable for them to pack their individual crops for storage, due to the fact that they were unable to employ expert assorters and also on account of the small size of the lots of tobacco of a particular quality that would be produced on a single farm. To own and operate cooperative packing houses where the tobacco could be assorted into lots of like qualities by trained men has proved of advantage. In this way the farmers were able to pack complete cases or hogsheads of tobacco of similar quality, whereas in individual packing it would be necessary in most instances to mix the different qualities in order to fill cases of commercial size. The packing houses as a rule have not been altogether successful, due, perhaps, to the fact that they were not able to operate continually from year to year. In years in which there was little demand for tobacco the packing houses had more tobacco than they could conveniently care for, while in other years when the demand and prices were good the farmers would sell their tobacco direct to the dealers and manufacturers without packing, leaving the packing houses idle. Ordinarily no special provisions were made for the sale of the tobacco which was jointly packed in this manner. Each farmer or group of farmers interested in a particular packing was required to be his own sales agent.

Cooperative sales agencies.—In some sections farmers organize cooperative sales agencies in connection with their packing houses. These agencies sell the tobacco that is cooperatively packed by the farmers. In practically all cases the individual farmer reserves the right to accept or reject the price offered to these agencies, and in most cases the individual farmer is allowed to sell his packing independent of agencies. However, this is limited to some extent in some agencies by requiring the individual producer when selling his tobacco independent of the agency to pay a fee to the agency. In other sections the agencies were formed indenandent of the cooperative-packing plants. In these sections the individual farmer usually does his own assorting and packing and ships his tobacco to a storage warehouse under consignment to the cooperative-selling agency. The cooperative agency in this particular instance performs the function of a commission merchant.

Cooperative pooling.—The most common form of cooperative marketing that is practiced is cooperative pooling. Pools have been formed in practically every section of the country in which tobacco is produced. Until recent years the pooling idea has been worked out on a small scale in most sections, but during the last two years several very large pools have been formed. These large cooperative pools have absorbed a number of the smaller pools, and one of the principles on which they are formed is to control a large percentage of the production in certain areas. In organizing a pool of this kind, from 50 to 75 per cent of the tobacco produced in a particular section is determined upon as a goal, and the organization is not put into operation until this percentage of the tobacco has been pledged to the pool by individual farmers who sign contracts. In these contracts the farmers agree to sell and deliver their entire crops of tobacco for a certain number of years to the pool, or cooperative association, which will sell the tobacco and make returns to the farmers after deducting all operating expenses. -These cooperative associations are organized without capital stock.

To secure the necessary funds to pay for the operating expenses of the association and to make advances to its members the association borrows money on its notes, which are usually secured by warehouse receipts showing the type, form, grade, weight, and condition of the tobacco, and the obligations assumed by the warehouseman. The grade or other class of the tobacco shown on the warehouse receipts, if issued under the United States warehouse act, are usually taken from an official inspection, grade, and weight certificate issued at the conditioning plant. This is done in order to save opening up the tobacco after being received into storage, which is not only expensive but causes considerable damage to the tobacco.

The associations found that in many cases the number of public storage houses available was not sufficient to take care of their storage requirements, and it became necessary to organize subsidiary warehousing corporations to perform this function. These corporations are organized as a rule with sufficient capital stock to purchase, own, and operate storage warehouses. In some cases these subsidiary corporations own and operate redrying and conditioning plants in connection with the operation of storage warehouses, and in other cases they own and operate assorting and packing houses in which the tobacco is prepared for storage.

Under the pooling plan the tobacco is assorted and tied into hands by the individual farmer and delivered to the receiving warehouses of the association at such times and places as it directs. As the tobacco is received into the warehouses of the association it is weighed, placed into baskets, and tagged in the same manner as in the case of the auction system, but instead of selling it at auction the baskets are graded by expert graders who are employed by the association. Each farmer is given a statement showing the grades of the tobacco delivered to the association with the weight of each grade. At the same time an advance payment is made on the tobacco delivered. The amount of this advance is governed by the association and proportioned according to the particular quantity of each grade delivered to the association.

The association has full jurisdiction over the tobacco after it has been received and may condition, warehouse, or sell it at will. A certain percentage of the tobacco as a rule is sold direct to dealers and manufacturers from the loose-leaf receiving floors of the association. The remainder of the tobacco is shipped by the association to conditioning plants, where it is conditioned and packed into hogsheads or cases for storage. As the tobacco is packed it is inspected, regraded, sampled, and weighed by competent and reliable persons, many of whom are licensed for the purpose under the United States warehouse act. It is then delivered to public storage houses, many of which are also licensed under the same law.

Prices of Tobacco.

Under the systems used in marketing tobacco, what may be called a wholesale market for unmanufactured tobacco



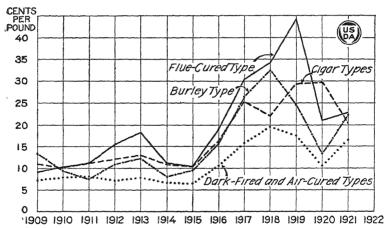


Fig. 23.—In recent years the bright flue-cured type has maintained the highest price level because of increased demand for this type in the domestic manufacture of cigarettes and in export trade. The lowest price level is shown by the dark fire-cured and air-cured types, the greater portion of which is exported.

has not been developed as has been for other commodities. As a rule, when tobacco is sold in large quantities sale is effected through private methods, and limited data are available as to prices received. The only prices are the general prices received by farmers. These are based as a rule upon the average price received for all qualities of tobacco. It has not been practicable to compile prices by grades, owing to the absence of any uniform system of grading. In securing data as to the average prices by types it has been necessary to follow the line of geographical division rather than of type characteristics.

In the graph showing tobacco prices by principal types (Fig. 23) it has been necessary to group all tobacco into four divisions: First, the cigar types cover wrapper, binder, and filler tobacco of Wisconsin, Ohio, Georgia, Florida, Pennsylvania, New York, and the Connecticut Valley, on which the farm prices range from 3 cents to \$4 per pound; second, the Burley type covers all grades of Burley tobacco grown in Indiana, Ohio, West Virginia, Kentucky, and Tennessee, on which the price ranges from 1½ cents to \$1 per pound;

AVERAGE PRICE OF TOBACCO, UNITED STATES, 1863-1921.

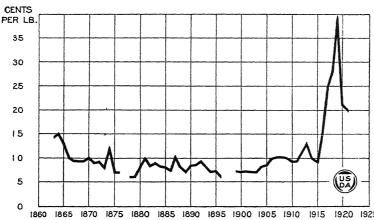


Fig. 24.—From 1865 to 1879 there was a fairly steady decline in average farm price, followed by a somewhat higher price level, for the most part, up to the outbreak of the World War. The abnormally high price level of 1919 was due mainly to the extraordinarily high price of the bright flue-cured type for that year.

third, the flue-cured type covers the "old belt" of Virginia and North Carolina and the "new belt" of North Carolina, South Carolina, and Georgia, on which the price of the various qualities range from 1½ cents to \$1.25 per pound; and, fourth, the dark-fired and air-cured types cover all grades of Maryland and eastern Ohio export, Virginia dark-fired and sun-cured, dark-fired types of Kentucky and Tennessee, and the one-sucker and air-cured types of Indiana, Kentucky, and Tennessee, on which the prices range from 1 to 65 cents per pound.

The following table shows the average farm prices for all types and grades, as far as records are obtainable, from 1618 to 1853:

444 Yearbook of the Department of Agriculture, 1922.

The accompanying graph (Fig. 24) shows the prices from 1863 to 1921. The World War caused the abnormally high average farm price of 39 cents per pound in the year 1919, which had not been previously equaled with the exception of the English Government prices of 1618, 1619, and 1620. The general price for half a century, from 1866 to 1915, was 8.5 cents per pound. During the five years from 1917 to 1921 the general average price was 26.4 cents per pound.

Average farm price of tobacco in the United States (cents per pound).

Year.	Price.	Year.	Price.	Year.	Price.	Year.	Price.
1618	54. 75 54. 75 54. 75 6. 08 6. 08 6. 08 3. 09	1684 1688 1695 1697 1698 1699	4. 12 3. 08 3. 09 3. 09 3. 62 3. 13 2. 03	1780 1785 1743 1744 1762 1763	1. 52 4. 2 3. 04 4. 06 4. 56 4. 56 4. 06	1765 1771 1780 1790 1847 1849	2. 03 4. 56 3. 04 3. 4 5. 0 7. 0

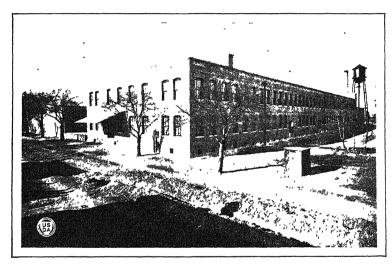
Financing the Marketing of Tobacco.

Tobacco is not suitable for manufacture until it has aged properly, which ordinarily means that it must be in storage from two to three years. In recent years the tendency has been to shorten the aging period by artificial sweating or by using a larger percentage of new tobacco in the blends, which are ordinarily made up of tobacco 1, 2, and 3 years In the manufacture of most tobacco products the tobacco used is, on an average, 18 months old. This makes it necessary for the trade to carry large stocks of tobacco on hand. The burden of carrying these stocks has been, for the most part, placed upon the dealers and manufacturers, as the farmer usually disposes of his tobacco as soon as possible after it has been produced. In the cigar-leaf producing States and in Maryland some farmers have held their tobacco on the farms or in public storage warehouses for considerable periods awaiting more favorable markets.

When tobacco is placed in a warehouse a warehouse receipt is issued therefor. This receipt is frequently used by the depositor as collateral for a loan. Comparatively few

farmers have used warehouse receipts because of the quite general practice on the part of farmers of selling their product as soon as possible after it is harvested. The manufacturer and dealer, on the other hand, are quite familiar with the use of these receipts.

With the development in the past two years in cooperative tobacco marketing organizations, the use of the warehouse receipt on the part of those who control the tobacco before it passes into the hands of dealers and manufacturers has



FEDERAL BONDED WAREHOUSE FOR STORING TOBACCO.

Fig. 25.—When tobacco is placed in a warehouse, licensed and bonded under the United States warehouse act, a negotiable warehouse receipt of prescribed form is issued therefor. This receipt is generally acceptable as collateral for loan purposes.

become quite general. These associations, almost without exception, have placed their tobacco in warehouses licensed under the United States warehouse act. They have found receipts issued under this act to constitute a high type of collateral, which is acceptable to the War Finance Corporation and generally acceptable to the leading banks as collateral for loan purposes. The value of these receipts is apparent from a study of the following copy of the form in use:

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4	d

W, A, Form T-6 TOBACCO
PAID IN CAPITAL STOCK THE DOE WAREHOUSE COMPANY ORIGINAL STO.270.00 INCORPORATED UNDER THE LAWS OF NORTH CAROLINA NEGOTIABLE AMOUNT OF BOND LICENSED AND BONDED UNDER THE U. S. WAREHOUSE ACT WAREHOUSE RECEIPT FOR ONE PACKAGE OF TOBACCO NO
Received from, the tobacco described below, stored in THE DOE WAREHOUSE, Bonded Compartment No, at Oxford, N. C., for which this receipt is issued, subject to the United States warehouse act, the regulations for tobacco warehouses thereunder, and the terms of this contract.
PRIVATE HOGSHEAD NUMBER AND MARKS.
The warehouseman claims a lien on said tobacco for charges, advances made, and other liabilities incurred as follows: Songe from date (including receiving and delivering and Sampling \$1.50 or fraction thereof for each and sampling \$1.50 or fraction thereof for energy and Sampling \$1.50 or fraction thereof for energy \$1.50 or fraction thereof \$1.50 or fraction thereof for energy \$1.50 or fraction thereof \$1.50 or fraction thereof for energy \$1.50 or fraction thereof \$1.50 or fraction the follows:

Back of W. A. Form T-6.

STATEMENT OF OWNERSHIP AND ENCUMBRANCES.

Each of the undersigned he is the owner of the tob than the warehouseman's and the following, there brances on said tobacco:	acco lien are	covered evidence no liens	by this red on the mortga	eceip fac ges,	t and e of or ot	that, e this re her en	other ceipt cum-
(Signed)	192.						
(Signed)_	192						
IN	DO	RSEME	NTS.				
Upon demand, deliver						_	
(Signed)	192.						
Upon demand, deliver	the	tobacco	covered	by	this	receip	t to
(Signed)_	192_						
Received delivery of	the 192_	tobacco	covere	d b	y th	is rec	eipt.
Received delivery of	the 192_	tobacco	covere	d b	y th	is rec	ei

448 Yearbook of the Department of Agriculture, 1922.

In Figure 26 are shown the locations of United States licensed warehouses and the points at which are functioning inspectors, graders, and weighers licensed under this act in connection with these licensed warehouses.

Exports and Imports.

Tobacco was the first article of export of the colonies, and 20,000 pounds were sent to England from Jamestown in 1618. Exports had reached 100,000,000 pounds just prior

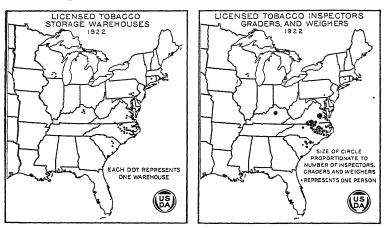


Fig. 26.—Licensed storage warehouses, and inspectors, graders, and weighers are now (1922) to be found in most of the principal tobacco-growing sections, thus affording approved facilities for placing tobacco in storage when growers do not wish to immediately sell their crop.

to the Revolutionary War, and by 1870 the average was in excess of 200,000,000 pounds. In the last three decades there has been a fairly uniform increase in average exports of leaf tobacco from 250,000,000 pounds in 1891 to 460,000,000 pounds for the 10-year period ending with 1921. At the close of the World War exports temporarily were in excess of 750,000,000 pounds. Exports of manufactured tobacco, though considerable, normally aggregate less than one-tenth of the leaf exports, the principal items being cigarettes, plug, and smoking tobacco. During and immediately following the World War, however, exports of cigarettes were greatly increased, the maximum of about 48,000,000 pounds having been reached in 1919. The United Kingdom is much the

largest purchaser of American tobacco, taking more than a third of the total exports, while France, Italy, and Germany each take about 10 per cent, the Netherlands about 6 per cent, Spain 5 per cent, Australia and Canada each 4 per cent, Belgium 3 per cent, and China 2 to 5 per cent. Exports to China have increased decidedly in recent years.

The increase in exports of leaf tobacco have not kept pace with increased production. Originally the bulk of the crop was exported, and in 1790 over 75 per cent of the total went abroad, while by the middle of the last century the fraction exported was two-thirds. At the close of the century exports averaged only about 38 per cent of the production, but since that time there has been no further permanent decline in the portion of the crop exported. Statistics of exports by types are not available, and only estimates can be made. It is well known that the dark fire-cured and air-cured types and the bright flue-cured furnish the bulk of leaf exports. The quantity of cigar leaf sent abroad is relatively unimportant, and perhaps not more than 10 to 15 per cent of the Burley crop is exported. It is estimated that about 75 per cent of the combined dark fire-cured and air-cured types goes to foreign countries. Since the production of these types is not increasing much, it is apparent that the increased exports of leaf are being derived largely from the bright flue-cured cigarette type. This indicates a foreign as well as a domestic increase in demand for the cigarette. Available information indicates that somewhat more than half the production of flue-cured leaf is exported.

Imports of leaf tobacco averaged 5,000,000 pounds at the outbreak of the Civil War and at the outbreak of the World War averaged about 60,000,000 pounds, or somewhat more than 14 per cent of the exports. Three principal types are imported, namely, cigar-wrapper leaf from Sumatra and Java, cigar filler and wrapper from Cuba, and cigarette tobaccos from Turkey and Greece. Considerable quantities of leaf have been imported from Cuba for a century, and Cuban tobacco largely formed the basis of development of the great cigar-manufacturing industry. For the period 1891–1895 imports from Cuba averaged 20,000,000

pounds annually and for the 10 years ending with 1910 the average was 22,000,000 pounds. In the past 10 years there has been little change in average imports. Cuban leaf is used in domestic manufacture of all-Havana cigars and for blending with domestic cigar leaf in manufacture. Imports of Sumatra wrapper leaf first became important in 1882, and for the 10 years ending with 1891 averaged 4,300,000 pounds annually. By 1894 the 10-year running average was 5,000,000 pounds, and since 1906 the average has remained near 6,000,000 pounds. This product is used almost exclusively for wrapping the domestic and blended fillers of low and medium priced cigars.

Imports of Turkish tobacco were nominal prior to 1903, but the rapid increase since that time has been the outstanding feature of tobacco imports. For the 10 years ending with 1912 average imports were in excess of 10,000,000 pounds and a 10-year average of 20,000,000 pounds was reached in 1919. In 1920 total imports of Turkish leaf reached 36,000,000 pounds, but in 1921 there was a decrease to approximately 26,000,000 pounds. The bulk of the imported Turkish leaf is used for blending with domestic flue-cured tobacco and, to a lesser extent, with Burley in the manufacture of cigarettes. The rapid increase in imports of Turkish tobacco closely parallels the great expansion in cigarette manufacture and in the production of flue-cured leaf. Imports of manufactured tobacco are relatively small, consisting chiefly of cigars from the Philippines and Cuba.

Domestic Consumption.

In Colonial days tobacco was grown primarily for export, but with increase of population and wider use of tobacco in its various forms among the colonists a steadily increasing proportion of the crop entered into domestic consumption, and this progressive change in distribution has continued, even through recent years. In the history of Virginia there are references to tobacco manufactories as early as 1732, though the product was used both for export and for domestic consumption. A considerable quantity of tobacco, however, has always been grown as a garden crop for home consumption in the unmanufactured state. In general, tobacco requires an aging process of from one to three years

in preparation for manufacture, so that, at least in later periods, since manufacturing has become more fully developed, there has been a very large carry-over each year; but the relation between production, consumption, and exports can be arrived at on the basis of averages for a period of years, consumption being regarded as represented by excess of production and imports over exports. Data for this method of computation are wanting, however, for early periods. For the year 1790 it appears that the quantity retained for domestic consumption amounted to about 29,000,000 pounds, or 22 per cent of the production for that year. For the census year 1839 the excess of production over exports of leaf was 100,000,000 pounds, or 45 per cent of the production, disregarding a net export of 6,000,000 pounds of manufactured tobacco in that year. For the 5-year period— 1881–1885—the apparent average annual consumption was nearly 287,000,000 pounds, or 56 per cent of the production. For the years 1891–1895 consumption averaged nearly 340,-000,000 pounds, which was 56.3 per cent of the production. For the period 1901-1905 the average consumption rose to 483,000,000 pounds, constituting 61 per cent of the production. For the pre-war period-1909-1913—the annual consumption was 650,000,000 pounds, or 65 per cent of the production. During the five years ending with 1921 consumption averaged 892,000,000 pounds, which was 65.5 per cent of the production. In arriving at the above estimates for dates since 1839 exports and imports of manufactured tobacco are included.

The per capita consumption of tobacco has been steadily increasing for many years. Prior to the Civil War it seems to have been less than 4 pounds. For the period 1881–1885 per capita consumption was 5.3 pounds, for 1891–1895 it receded to 5 pounds, but for 1901–1905 it had increased to about 6 pounds. During the 5-year period ending with 1913 the quantity consumed per capita had further increased to 7 pounds, and for 1917–1921 it reached 8.5 pounds. These figures probably mean that a steadily increasing proportion of the population is using tobacco.

The Commissioner of Internal Revenue secures accurate record of the quantities of leaf tobacco used each year in the various forms of manufacture. In Figure 27 is shown

graphically the distribution of leaf in the manufacture of cigars, cigarettes, and tobacco and snuff. The figures include most of the imported leaf, which constitutes 5 to 10 per cent of the total leaf consumed in manufacture. So far as concerns comparison with production on the basis of farm weight, however, these imports are fully offset by the shrinkage in weight which tobacco undergoes during the aging process, which amounts on the average to about 10 per cent. With an average total consumption of leaf amounting to about 370,000,000 pounds for the five-year period 1897-1901. 26 per cent of this total was used for the manufacture of cigars, 4 per cent for cigarettes, and 70 per cent for tobacco and snuff. For the period 1907-1911 the total leaf consumed averaged 507,000,000 pounds, with cigars accounting for 28 per cent, cigarettes 5.2 per cent, and snuff and tobacco 66.8 per cent. For the five years ending in 1921 the total leaf consumed averaged 672,000,000 pounds, of which 25 per cent was used for cigars, 26.3 per cent for cigarettes, and 48.7 per cent for tobacco and snuff. The remarkable increase in quantity of leaf used for manufacture of cigarettes, as well as the accelerating rate of this increase, which began after a period of decline from 1897 to 1902, are seen in Figure 27.

TREND IN CONSUMPTION OF LEAF TOBACCO: CIGARS, CIGARETTES, TOBACCO, AND SNUFF, 1897-1921.

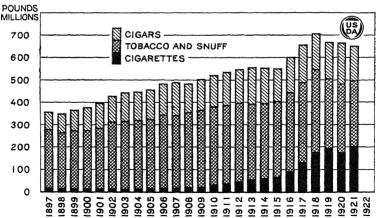


Fig. 27.—Since about 1908 there has been an exceedingly rapid increase in the quantity of tobacco used in cigarette manufacture. The manufacture of cigars shows only a moderate increase in recent years, while the quantity of leaf used for chewing and smoking tobacco and snuff shows almost no increase in the past 20 years.

This enormous expansion in the manufacture of the machinemade cigarette is the outstanding feature of the past quarter of a century in the tobacco industry.

The returns of the Commissioner of Internal Revenue include under the general head of "tobacco and snuff" the forms of manufacture known as plug, twist, fine cut, and smoking tobacco, in addition to snuff. It is significant that the production of plug, used principally for chewing, which has long been a principal form of manufacture, reached a maximum of nearly 186,000,000 pounds as early as 1897, and in recent years has shown a tendency to decline. The production of twist, which is used mainly for chewing, is not large, the maximum production of 17,000,000 pounds having been reached in 1918. Maximum production of fine cut, also chiefly used for chewing, amounting to 19,000,000 pounds, was reached in 1881 and has since steadily declined. Production of smoking tobaccos, extensively used for rolling of cigarettes by hand as well as for pipe smoking, has increased from 85,000,000 pounds in 1897 to a maximum of 258,000,000 pounds in 1918, although the increase since 1910 has been relatively small. Production of snuff has steadily increased from 14,000,000 pounds in 1897 to a maximum of 37,000,000 pounds in 1918. In 1890 the production of cigars first exceeded 4 billions in number, and in 1901 6 billions were produced. The 7-billion mark was reached in 1906, but since that date there has been little increase in production, except that in the single year 1920 the 8-billion mark was temporarily passed. It is worthy of note, however, that the average size or weight of the individual cigar has increased considerably in recent years. In the above figures the relatively unimportant item of so-called little cigars is not included. Production of cigarettes first exceeded 1 billion in number in 1885, and in 1895 more than 4 billions were manufactured, of which a half billion was exported. In 1905 the production was 5½ billions, of which two-thirds were retained for domestic consumption. In 1910 production had increased to 84 billions, exclusive of manufactures in bonded warehouses for export. In 1917 the total production was in excess of 44 billions, including manufactures in bonded warehouses, of which 37 billions remained at home

for consumption. In 1921 production reached the enormous number of 60 billions, of which about $8\frac{1}{2}$ billions were exported. In brief, the use of tobacco for chewing has been giving way to smoking, the first evidence of which could be seen in increased consumption of cigars and smoking tobacco, while more recently these forms of smoking are giving place to the machine-made cigarette.

Utilization of Tobacco By-Products.

The stem or midrib of the leaf can not be utilized in some classes of manufactured tobacco, and in the aggregate a large surplus of stems thus accumulates, of which only a small proportion is exported. These stems, together with considerable quantities of inferior or damaged leaf and leaf scrap and, to some extent, the tobacco stalks, furnish the sources of various nicotine preparations. Nicotine is a valuable insecticide and is widely used for control of certain insect pests of plants. It is also extensively used in dips for control of mange or scab on sheep and cattle. Stems and other tobacco by-products, with or without previous extraction of the nicotine, are used in large quantities as fertilizer, their value for this purpose depending mainly on their content of nitrogen and potassium. No statistics are available as to quantities of tobacco by-product utilized in the preparation of insecticides or as fertilizer.

International Trade in Unmanufactured Tobacco.

A large portion of the world's crop of tobacco does not enter into commerce, being consumed by the producer in the unmanufactured state. On the other hand, to meet fully the requirements for various forms of manufacture, including the blending of mixtures according to the varying tastes of consumers, countries supplying large exports may also find it necessary to import certain foreign types of leaf, as is true of the United States. Some of the large consuming countries, moreover, produce little or no tobacco. Including those countries for which statistics are available, the average

yearly exports of tobacco in the world's trade for the period 1909 to 1913 amounted to 929,000,000 pounds. As shown in Figure 28, the United States is much the largest exporting country, furnishing 41 per cent of the total. The Dutch East Indies contributed nearly 18 per cent, Brazil about 6.5 per cent, Cuba 4 per cent, British India and the Philippine Islands each about 3 per cent. The tobacco exports of Turkey undoubtedly were important for this period, both in quantity and quality of product, and while full statistics are not available she probably ranked along with Brazil in quantity of leaf supplied.

INTERNATIONAL TRADE IN UNMANUFACTURED TOBACCO, YEARLY AVERAGE, 1909–1913.

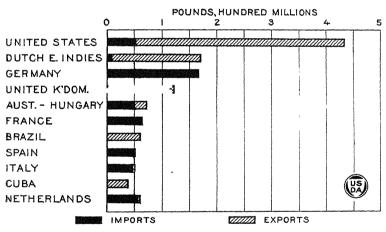


Fig. 28.—The United States is by far the leading country in exports but also imports considerable quantities of leaf tobacco. The Dutch East Indies rank second in volume of exports. Germany and the United Kingdom lead in imports.

Of the total imports in world trade for the same period, amounting to 844,000,000 pounds, Germany received 20 per cent, the United Kingdom 14 per cent, France 7.5 per cent, Netherlands 7 per cent, the United States, Spain, and Austria-Hungary each about 6 per cent, Italy 5.5 per cent, and Belgium 2.5 per cent.

Import Duties and Internal Revenue Taxes on Tobacco.

Import Levies.

Import duties have been levied on tobacco, both in manufactured and unmanufactured form, almost from the beginning of the Federal Government. In earlier years the rates were comparatively low, but they were greatly increased during the Civil War period. Since that time the chief increases in rates have been in leaf tobacco. Cigars as such were first included in the act of March 27, 1804, while "paper cigars" were first listed in the act of July 30, 1846, and cigarettes in the act of July 14, 1862. In the latter act a distinction is first made between stemmed and unstemmed leaf. and in the act of March 3, 1883, a distinction is drawn between wrapper and filler grades of cigar leaf. The annual revenue accruing to the Government from tobacco imports averaged for the period 1868-1872 somewhat less than \$4,000,000, for the period 1888-1892 over \$12,000,000, and for the period 1908-1912 approximately \$24,000,000. The aggregate revenue from this source for the 50-year period 1872-1921 was more than \$800,000,000.

The following digest embraces a list of tariff acts relating to tobacco, with rates of duty, from 1789 to date:

Rates of duty on tobacco imports under the Constitution.

Date of act (and when effective)	Rates of duty.			
July 4, 1789 (Aug. 1, 1789).	Snuff, 10 cents per pound; manufactured tobacco, 6 cents per pound; unmanufactured tobacco, 5 per cent.			
Aug. 10, 1790 (Jan. 1, 1791).	Snuff, 10 cents per pound, unmanufactured, 5 per cent, manufactured, 6 cents per pound.			
May 2, 1792 (July 1, 1792).	Unmanufactured, 7½ per cent. other tobacco duties remain.			
June 5, 1794 (Oct. 1, 1794).	Snuff, 22 cents per pound, unmanufactured remains 7½ per cent, manufactured, 10 cents per pound.			
June 7, 1794 (July 1, 1794).	Snuff remains 22 cents per pound; unmanufactured, 10 per cent. manufactured remains 10 cents per pound.			
May 13, 1800 (July 1, 1800).	Snuff remains 22 cents per pound, unmanufactured, 12½ per cent, manufactured remains 10 cents per pound.			
Mar. 26, 1804 (July 1,	,			

Rates of duty on tobacco imports under the Constitution-Continued.

Date of act (and when effective).	Rates of duty
Mar. 27, 1804 (July 1, 1804).	Cigars, \$2 per 1,000, other existing rates temain
July 1, 1812 (July 1, 1812).	Existing rates doubled until one year after the war
Apr. 27, 1816 (July 1, 1816).	Snuff, 12 cents per pound, cigars, \$2.50 per 1,000, other manufactured, 10 cents per pound, unmanufactured, 15 per cent.
Mar. 2, 1833 (Jan. 1, 1834).	Existing rates in excess of 20 per cent to be reduced to 20 per cent by yearly reductions to July 1, 1842.
Sept. 11, 1841 (Oct 1, 1841).	Unmanufactured, 20 per cent, other rates remain.
Aug. 30, 1842 (Aug. 31, 1842).	Snuff, 12 cents per pound; eigars, 40 cents per pound: other manufac- tured, 10 cents per pound, unmanufactured, 20 per cent.
July 30, 1846 (Dec. 2, 1846).	Snuff, 40 per cent, cigars and paper cigars, 40 per cent; other manufar- tured, 40 per cent, unmanufactured. 30 per cent.
Mar. 3, 1857 (July 1, 1857).	Manufactured, 30 per cent, unmanufactured, 24 per cent
Mar. 2, 1861 (Apr. 2, 1861).	Snuff, 10 cents per pound. Cigars Value of \$5 or less per 1,000, 20 cents per pound; value over \$5 to \$10 per 1,000, 40 cents per pound, value over \$10 per 1,000, 60 cents per pound and 10 per cent, unmanufactured in leaf, 25 per cent, other manufactured and other unmanufactured, 30 per cent.
July 14, 1862 (Aug. 2, 1862).	Snuff, 35 cents per pound. Cigars and cigarettes: Value of \$5 or less per 1,000, 35 cents per pound, value over \$5 to \$10 per 1,000, 60 cents per pound, value over \$10 to \$20 per 1,000, 80 cents per pound and 10 per cent; value over \$20 per 1,000, \$1 per pound and 10 per cent. Unmanufactured in leaf and unstemmed, 25 cents per pound, stemmed, 35 cents per pound, other manufactured, 35 cents per pound
Apr. 29, 1864 (Apr. 29, 1864).	Existing rates increased 50 per cent for 60 days
June 30, 1864 (July 1, 1864).	Snuff and snuff flour, 50 cents per pound. Cigais and cigarettes: Value of \$15 or less per 1,000, 75 cents per pound and 20 per cent; value over \$15 to \$30 per 1,000, \$1 25 per pound and 30 per cent; value over \$30 to \$45 per 1,000, \$2 per pound and 50 per cent; value over \$45 per 1,000, \$3 per pound and 60 per cent. Unmanufactured, in leaf and unstemmed, 35 cents per pound, stemmed, 50 cents per pound, other
Mar. 3, 1865 (Apr. 1, 1865).	manufactured, 50 cents per pound. Stems, 15 cents per pound.
July 28, 1866 (Aug. 11, 1866).	Cigars, cigarettes, and cheroots, \$3 per pound and 50 per cent.
Mar. 3, 1883 (July 1, 1883).	Snuff and snuff flour, 50 cents per pound; eigars, eigarettes, and cheroois, \$2.50 per pound and 25 per cent. Unmanufactured, in leaf and unstemmed 85 per cent suitable for eigar wrappers, and more than 100 leaves in pound, 75 cents per pound; stemmed, \$1 per pound. Other leaf, unstemmed, 35 cents per pound; stemmed, 40 cents per pound. Other unmanufactured, 30 per cent, stems, 15 cents per pound; other manufactured, 40 cents per pound.

Rates of duty on tobacco imports under the Constitution-Continued.

Rates of duty
Snuff and snuff flour, 50 cents per pound. cigais, cigaiettes, and cheioots, \$4.50 per pound and 25 per cent. Unmanufactured, in leaf for cigar wrappers—unstemmed, \$2 per pound, stemmed, \$2 75 per pound. Other leaf—unstemmed, 35 cents per pound; stemmed, 50 cents per pound Stems, free. Other manufactured, 40 cents per pound.
Snuff and snuff flour, 50 cents per pound, cigars, cigarettes, and cheroots, \$4 per pound and 25 per cent. Wrapper, unstemmed, \$1.50 per pound; stemmed, \$2 25 per pound. Filler, unstemmed, 35 cents per pound; stemmed, 50 cents per pound. Stems, free. Other unmanufactured and manufactured, 40 cents per pound.
Snuff and snuff flour, 55 cents per pound, cigars, cigarettes, and che- 100ts, \$4.50 per pound and 25 per cent. Wrapper, and filler when mixed of packed with more than 15 per cent of wrapper, and all leaf the product of two or more countries when mixed of packed together, unstemmed, \$1.85 per pound; stemmed, \$2.50 per pound. Other filler, unstemmed, 35 cents per pound; stemmed, 50 cents per pound Stems, free. Other unmanufactured and manufactured, 55 cents per pound.
Shipments from Porto Rico to United States, 15 per cent of existing
rates + internal-revenue tax. Shipments from Porto Rico/to United States, free (Proclamation by President.)
Imports from Philippine Islands of articles grown and produced there, 75 per cent of existing rates + internal-revenue tax. (Ceased Aug 6, 1909.)
Imports from Cuba of products of soil or industry of that country, 20 $\rm per$
cent below existing rates. Not sub equently repealed. Rates of July 24, 1897: Scrap, 55 cents per pound. These are the rates of the minimum tariff. The maximum tariff is 25 per cent higher and is to be in force to Mar. 31, 1910, and thereafter unless President by proclamation declares no discrimination by particular countries. These rates apply to Philippine Islands; imports exceeding 300,000 pounds of wrapper and filler mixed or packed with more than 15 per cent of wrapper; exceeding 1,000,000 pounds of filler; and exceeding 150,000,000 cigars. Internal revenue to be paid.
Rates of July 24, 1897, except scrap, 35 cents per pound. All articles the growth or product of the Philippine Islands, free. Wrapper, and filler when mixed or packed with more than 15 per cent of wrapper, and all tobacco the product of two or more countries when mixed or packed together, unstemmed, \$2 35 per pound; stemmed, \$3 per pound. Other filler (all other leaf), unstemmed, 35 cents per pound; stemmed, 50 cents per pound. Other existing rates net

Rates of duty on tobacco imports under the Constitution-Continued.

Date of act (and when effective)	Rates of duty
Sept. 21, 1922 (Sept. 22, 1922).	Snuff and snuff flour, 55 cents per pound, cigars, cigarettes, and cheroots. \$4 50 per pound and 25 per cent Wrapper, and filler when mixed or packed with more than 35 per cent of wrapper, and leaf the product of two or more countries when mixed or packed together, unstemmed, \$2 10 per pound, stemmed, \$2.75 per pound Other filler, unstemmed, 35 cents per pound; stemmed, 50 cents per pound Scrap, 35 cents per pound, stems, free; other unmanufactured and manufactured, 55 cents per pound From Philippine Islands, if grown or produced there, free+United States internal revenue tax All rates subject to change by the President after investigation of cost of production, domestic and foreign.

Internal Revenue Taxes.

Internal-revenue taxation of tobacco as a more or less fixed policy began during the Civil War. As a whole the rates of taxation reached a maximum during the later years of that war, while relatively high rate levels also came into effect in 1875 and again following the World War. At the outset a sliding scale of rates, according to value of the product, was applied to cigars, while for smoking and chewing tobaccos there was also a sliding scale based on value of product; but, in addition, rate differences based on character of raw material used in manufacture were applied. After a long period of flat rates, which began in 1867, the principle of a sliding scale according to value was revived for large cigars in 1917. On the other hand, flat rates have been applied to smoking and chewing tobaccos since 1872, and since 1898 snuff has been classed with these tobaccos. With the exception of the act of 1901, flat rates have been applied to cigarettes since 1867, so far as concerns value, but since 1868 there has been a difference in rates as between cigarettes weighing not more than 3 pounds per 1,000 and those weighing more than 3 pounds. The same distinction as to weight was first applied to cigars in 1897.

The amount of revenue derived from internal-revenue taxes in 1863 was somewhat more than \$3,000,000, while 10 years later the amount was more than \$34,000,000. In 1902 the revenue amounted to nearly \$52,000,000, in 1917 over \$103,000,000, and in 1920 approximately \$294,000,000. The total revenue derived from these taxes from 1862 to 1921, inclusive, a period of 60 years, was considerably over \$3,000,000,000.

The following summary, based on compilations by the Commissioner of Internal Revenue, United States Treasury Department, shows the rates of taxation on cigars and cigarettes as fixed in internal revenue acts from 1862 to date. Only half of the increase in rates provided in the act of October 3, 1917, were applicable during the first month of its operation.

Date of internal revenue acts imposing tax on eigars and eigarettes and rates of tax.

Date of act (and when effective)	Product.	Rate of tax.	Length oftime ineffect.
		Per 1,000.	Months
July 1, 1862 (Sept	('igars, valued at not over \$5 per 1,000.:	\$1.50	22
1, 1862)	Valued at over \$5 and not over \$10 per 1,000	2.00	22
•	Valued at over \$10 and not over \$20 per 1,000	2.50	22
	Valued at over \$20 per 1,000	3 50	22
June 30, 1864 (June	Cheroots valued at not over \$5 per 1,000	3.00	9
30, 1864).	Cigars valued at not over \$5 per 1,000	3.00	9
	Valued at over \$5 and not over \$15 per 1,000	8.00	9
	Valued at over \$15 and not over \$30 per 1,000	15 00	9
	Valued at over \$30 and not over \$45 per 1,000	25.00	9
	Valued at over \$45 per 1,000	40.00	9
	Cigarettes valued at not over \$6 per 100 packages of 25 each.	1 1.00	9
	Valued at over \$6 per 100 packages of 25 each	1 3.00	9
	Cigarettes made wholly of tobacco	3.00	9
Mar.3, 1865 (Apr.1, 1865).	Cigars and cheroots made wholly of tobacco or of any substitutes therefor.	10.00	16
	Cigarettes valued at not over \$5 per 100 packages of 25 cach.	2.05	16
	Valued at over \$5 per 100 packages of 25 each	3.05	16
	Cigarettes made wholly of tobacco or of any substitutes therefor.	10.00	16

Date of internal revenue acts imposing tax on cigars and cigarettes and rates of tax—Continued.

Date of act (and when effective).	Product	Rate of tax.	Length oftime in effect.
		Per 1,000.	Months
July 13, 1866 (Aug. 1, 1866).	Cigars, cigarettes, and cheroots valued at \$8 per 1,000 or less.	\$2 00	7
-, - ,	Valued at over \$8 and not over \$12	4 00	7
	Valued at over \$12 per 1,000	4 4 00	7
Mar. 2, 1867	Cigars, cigarettes, and cheroots of all descriptions	5 00	17
July 20, 1868 (July	Cigars and cheroots of all descriptions	5.00	79
20, 1868).	Cigarettes weighing not over 3 pounds per 1,000	1 50	79
,	Weighing over 3 pounds per 1,000.	5.00	79
Mar 3, 1875 (Mar. 3,	Cigars and cheroots of all descriptions.	6.00	98
1875).	Cigarettes weighing not over 3 pounds per 1,000	1.75	98
	Weighing over 3 pounds per 1,000	6 00	98
Mar 3, 1883 (May 1,	Cigars and cheroots of all descriptions.	3 00	183
1883).	Cigarettes weighing not over 3 pounds per 1,000	. 50	172
•	Weighing over 3 pounds per 1,000	3.00	183
July 24, 1897 (Aug.	Cigars weighing more than 3 pounds per 1,000	3.00	10
15, 1897).	Weighing not more than 3 pounds per 1,000	1.00	47
,	Cigarettes weighing more than 3 pounds per 1,000	3 00	10
	Weighing not more than 3 pounds per 1,000	1.00	10
June 13, 1898 (June	Cigars weighing more than 3 pounds per 1,000	3. 60	37
14, 1898).	Weighing not more than 3 pounds per 1,000	1.00	37
,	Cigarettes weighing more than 3 pounds per 1,000	3 60	49
	Weighing not more than 3 pounds per 1,000	1 50	37
Mar. 2, 1901 (July 1,	Cigars weighing more than 3 pounds per 1,000	3 00	
1901).	Weighing not more than 3 pounds per 1,000	. 54	108
Apr. 12, 1902 (July	Cigarettes weighing more than 3 pounds per 1,000	3.00	96
1, 1902).	Weighing not more than 3 pounds per 1,000 of wholesale value or price of—		
Mar. 2, 1901 (July 1,	Not over \$2 per 1,000	. 54	108
1901).	More than \$2 per 1,000	1.08	108
Aug. 5, 1909 (July 1,	Cigars weighing more than 3 pounds per 1,000	3, 00	87
1910).	Weighing not more than 3 pounds per 1,000	. 75	87
1010).	Cigarettes weighing more than 3 pounds per 1,000	3. 60	87
	Weighing not more than 3 pounds per 1,000	1, 25	87
Oct. 3, 1917 (Oct. 4,	Classes A-D, cigars, weighing more than 3 pounds per		
1917).	1,000, if manufactured or imported to retail at:		
1011).	(A) Less than 4 cents each	3 00	16
	(B) 4 cents or more and not over 7 cents each	4.00	16
	(C) More than 7 cents and not over 15 cents each	6.00	16
	(D) More than 15 cents and not over 20 cents each.	8.00	16
	Class E, cigars, weighing more than 3 pounds per	10.00	16
	1,000, if manufactured or imported to retail at over		
	20 cents each.	1,00	16
	Cigars weighing not more than 3 pounds per 1,000. Cigarettes weighing not more than 3 pounds per	2 05	16
	1,000. Cigarettes weighing more than 3 pounds per 1,000.	4 80	16

Date of internal revenue acts imposing tax on cigars and cigarettes and rates of tax—Continued.

Date of act (and when effective).	Product	Rate of tax.	Length of time ineffect.
Feb. 24, 1919 (Feb.	Classes A-D, cigars, weighing more than 3 pounds	Per 1,000	Months.
25, 1919).	per 1,000, if manufactured or imported to retail at: (A) Not more than 5 cents each	e4 00	
	(B) More than 5 cents and not more than 8 cents	\$4.00 6.00	33
	each.		33
	(C) More than 8 cents and not more than 15 cents each.	9. 00	33
	(D) More than 15 cents and not more than 20 cents each.	12.00	33
Feb. 24, 1919 (Feb. 25, 1919).	Class E cigars, weighing more than 3 pounds per 1,000, if manufactured or imported to retail at over 20 cents each.	15. 00	33
	Cigars weighing not more than 3 pounds per 1,000.	1, 50	33
	Cigarettes weighing not more than 3 pounds per 1,000.	3.00	33
	Cigarettes weighing more than 3 pounds per 1,000.	7. 20	33
Nov. 23, 1921 (Nov.	Cigars, made of tobacco or any substitute, weighing		
23, 1921).	more than 3 pounds per 1,000, if manufactured or imported to retail at:		
	(A) Not more than 5 cents each	4.00	
	(B) More than 5 cents and not more than 8 cents each.	6 00	
	(C) More than 8 cents and not more than 15 cents each.	9. 00	
	(D) More than 15 cents and not more than 20 cents each.	12.00	
	(E) More than 20 cents each	15, 00	
	Cigars, made of tobacco or any substitute, weighing		
	not more than 3 pounds per 1,000.	1.50	
	Cigarettes, made of tobacco or any substitute, weighing more than 3 pounds per 1,000.	7 20	
	Cigarettes, made of tobacco or any substitute, weighing not more than 3 pounds per 1,000.	3 00	

In the following summary, based on compilations by the Commissioner of Internal Revenue, are shown the rates of taxation applying to smoking and chewing tobaccos and snuff, as fixed in internal revenue acts from 1862 to date. Only one-half of the increase in rates provided in the act of October 3, 1917, was applicable during the first month of its operation.

Dates of internal revenue acts imposing tax on chewing and pipesmoking tobaccos and snuff, and rates of tax.

	to a constant and only, and rates of the		
Date of act (and when effective)	Form of manufacture.	Rate of tax per pound	Length of time in effect.
		Cents	Months
July 1. 1862 (July 1,	Smoking, made exclusively of stems	2	
1862).	Smoking, prepared with all the stems in	5	22
	Cavendish, plug, twist, fine cut, valued at not over 30 cents per pound.	10	6
	Cavendish, plug, twist, fine cut, valued at over 30 cents per pound.	15	6
	Snuff	20	22
Mar. 3, 1863 (Mar 3,	Smoking, made exclusively of stems	5	1
1863).	Cavendish, plug, twist, fine cut, and manufactured	15	16
	tobacco of all descriptions, except smoking tobacco.		
June 30, 1864 (June	Smoking, made exclusively of stems	15	25
30, 1864).	Smoking, prepared with all the stems in, and fine- cut shorts.	25	9
	Cavendish, plug, twist, etc., and fine-cut chewing	35	9
	Snuff	35	9
Mar. 3, 1865 (Apr. 1,	Twisted by hand	30	16
1865).	Smoking, of all kinds, not otherwise provided for	35	16
	Cavendish, plug, twist, etc , and fine-cut chewing	40	16
	Snuft	40	40
July 13, 1866 (Aug.	Smoking, not sweetened, stemmed, or butted	13	24
1, 1866).	Twisted by hand, etc., and fine-cut shorts	30	24
	Smoking, sweetened, stemmed, or butted	40	24
	Chewing.	40	24
July 20, 1868 (July	Chewing, etc., smoking, etc., part of the stems removed	32	47
20, 1868).	Smoking, exclusively of stems, etc	16	47
• •	Snuff	32	129
June 6, 1872 (July 1, 1872).	All kinds, except snuff, cigars, cheroots, and cigarettes.	20	32
	do	24	50
Mar. 1, 1879 (May 1, 1879).	All kinds, except snuff, cigars, cheroots, and cigarettes.	16	48

Dates of internal revenue acts imposing tax on chewing and pipe-smoking tobaccos and snuff, and rates of tax—Continued.

Date of act (and when effective).	Form of manufacture.	Rate of tax per pound.	Length of time in effect.
Mar. 3, 1883 (May 1, 1883).	All kinds, except snuff, cigais, cheroots, and cigarettes	Cents.	Months. 91
Oct. 1, 1890 (Jan 1, 1891).	Smoking and manufactured tobacco and snuff	6	90
June 13, 1898 (June 14, 1898).	Manufactured tobacco and snuff	12	49
	do	6	96
Aug 5, 1909 (July 1, 1910).	do	8	86
Oct. 3, 1917 (Nov. 2, 1917).	do	13	15
Feb. 24,1919 (Feb 25, 1919).	do	18	33
	do	18	-
		l l	

Summary and Outlook.

Concomitant with the comparatively steady expansion in acreage and production of tobacco during and since colonial days the industry has undergone a high degree of specialization. Primarily as a result of the exacting requirements as to soil and climate for producing the particular kinds of tobacco needed for various purposes of manufacture and export, tobacco culture has become sharply localized. Each producing section supplies a definite type peculiarly suited for specific trade purposes. Other sections formerly growing tobacco but having soil and climatic conditions less favorable for producing the types now in demand have been forced to abandon the crop. These distinctive types are in large measure noncompetitive, so that important economic changes or tendencies may have very different effects on the various centers of production.

The Tobacco Crop as a Whole.

Considering the tobacco crop as a whole there has been marked and almost continuous increase in production during the past 40 years. The rate of increase has more than kept pace with the increase in population. Under a wellbalanced system of diversified farming, including winter feeding of steers, the yield per acre of tobacco shows an upward tendency. Under a highly intensive one-crop system, heavy fertilizing and manuring is apparently failing to maintain yields at the high levels which were first established. With an extensive system on rather poor soils, in which cropping to tobacco alternates with a period of "resting" the land, the yield is being maintained, though at a relatively low level. Under these circumstances the level of vields has been considerably raised by use of commercial fertilizers. Imports of tobacco are considerable and have increased decidedly in recent years, though in the aggregate they amount to hardly more than 10 per cent of exports. A large proportion of the leaf tobacco imported is used for blending purposes and therefore does not come into competition with domestic leaf. Net exports of tobacco, though large and increasing, have not kept pace with the increase in production. Serious effort is being made in various parts of the world to produce tobaccos similar to those exported from this country, but it remains to be seen what success will follow these endeavors. Domestic consumption of tobacco has been increasing steadily for many years, and even on a per capita basis this increase has been considerable. The tobacco industry reacted sharply to conditions created by the World War. Abnormally high prices resulting from greatly increased foreign and domestic demand stimulated heavy production which culminated in a crop of more than 1½ billion pounds in 1920. The precipitate drop in prices in that year for a crop grown at heavy cost resulted in serious losses. Largely as a consequence of these conditions production in 1921 virtually receded to the prewar level of 1 billion pounds. The average farm price for the 1921 crop was about 89 per cent above prewar figures.

Relative Position of the Distinctive Types of Tobacco.

With respect to the several distinctive types of tobacco. significant changes have taken place both at home and abroad in popularity of the different forms in which tobacco is consumed. These changes necessarily affect the relative demand of the different types of leaf. Maximum production of chewing tobaccos was virtually reached as early as 1897. On the other hand, production of pipe-smoking tobaccos increased rapidly until about 1910, while the subsequent rate of increase has been much slower. Manufacture of cigars increased rapidly until about 1906, but since that time the rate of increase has fallen off. Beginning about 1910 the production of machine-made cigarettes began to increase with remarkable rapidity, and this rate of increase has been steadily maintained. It is apparent that chewing is less popular than formerly and is giving way to smoking, and the cigarette is now becoming the favorite smoke. line with these facts there has been a very large increase in production of the bright flue-cured tobacco, which is the leading cigarette and granulated pipe-smoking type, with an upward trend in price. There has been, moreover, an increasing foreign demand for this type, thus placing it in a relatively strong position. Flue-cured tobacco has long occupied an important position in the manufacture of plug. but any loss in demand in this direction has been more than offset by the gain in domestic and foreign demand for smoking purposes. Burley, which has been the leading type of leaf for the manufacture of plug, also has recently come into great demand for cigarette and smoking grades of leaf, the net result being a moderate increase in total demand for this type. The dark fire-cured and air-cured tobaccos have always been mainly export types, domestic use being confined mostly to the production of chewing tobacco and snuff. Foreign markets are indicating more and more a preference for the light colored cigarette types of leaf, at least so far as concerns increased purchases in this country. As would be

expected from these facts, there has been no notable permanent increase in production of the dark types in recent years. Cigar leaf is largely restricted to a single domestic use, and production has shown but little increase in the past decade, thus further indicating a slowing down of the increase in consumption of cigars.

Tobacco Culture in New Territory.

The question is frequently raised whether tobacco could be grown with profit in sections where it is not at present a commercial crop. In the search for new crops in various regions it is natural that attention should be directed toward tobacco because of the fact that it is a cash crop of high acre value. For the five-year period ending with 1920 the average acre value of tobacco was approximately \$205, as compared with \$126 for potatoes, \$42 for cotton, and \$26 for hav. There are two principal aspects of the question as to prospects for tobacco culture in new territory, namely, whether present production fully equals the demand and whether new regions could successfully compete with the sections already growing tobacco. As a matter of fact, from the earliest days of the colonists overproduction has been the one greatest menace to profitable tobacco culture. In most of the principal centers of production less than 10 per cent of the total acreage of the tobacco farms is devoted to this crop each year and rising prices for tobacco are almost invariably followed by marked increase in production. In recent years by far the most marked increase in demand and in production has been in the flue-cured type of the South Atlantic States, but in these States there is a very large acreage of land lying idle which is not sufficiently productive for general farming but is available for meeting any increase in demand for flue-cured tobacco. It is apparent, therefore, that commercial tobacco culture in new territory must be at the expense of the established producing districts. As bearing on the second phase of the question, it has already been made clear that through a long process of evolution and specialization to bacco production has become definitely localized, each region because of its particular combination of soil and climate producing a type of leaf

peculiarly suited for certain uses and differing in important characteristics from other types. So marked are the effects of soil and climate that it rarely if ever happens that two different regions will produce exactly the same type of leaf, and for this reason the trade usually looks to some particular section producing tobacco of known characteristics for the required supply of each of the commercial types of leaf. Under ordinary circumstances, therefore, commercial tobacco culture is not likely to prove successful in new territory.



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Introduction.

OF the seven crops named, the first five are members of the grass family, while the last two represent two different and unrelated families. Only members of the grass family properly are called cereals. Flax really is an oil crop and is grouped with the cereals because it is a field crop grown in the same areas and handled largely by the same machinery and processes. Buckwheat, while not a true cereal, is used as a flour grain, and hence is a cereal substitute.

The true cereals grown extensively in the United States are wheat, oats, barley, rye, and rice, commonly called "small grains," and corn (maize) and the grain sorghums, which might be called "large grains," by way of contrast. Commercially oats, barley, and corn, used chiefly for feeding animals, are called "coarse grains," in distinction from wheat, rye, and rice, used chiefly for feeding humans, and often called "food grains." The comparative values of most

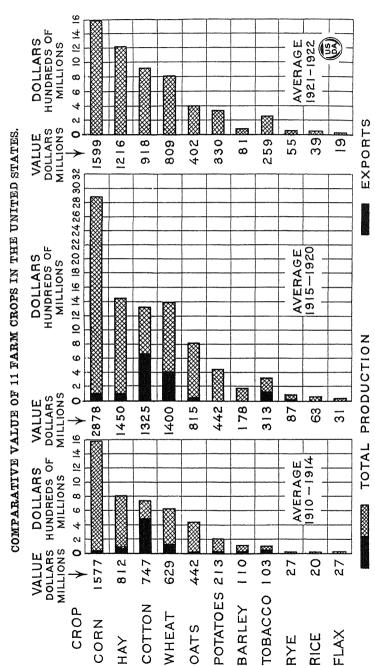


Fig. 1.—Oats ranks fifth in value among the crops in all three periods. Barley ranks seventh or eighth, rye ninth, rice usually tenth, and seed flax cleventh.

of these cereals and of some other farm crops, in different periods, are shown in Figure 1.

In the following treatment of these crops some phases of their production are discussed for each crop separately, while other phases are discussed for all or part of them combined. Each crop is discussed separately, for instance, with reference to its importance, world production, the trend and historical development of production in the United States, factors affecting production (including soil, climate, diseases, and insects, as well as some special economic factors), and the problems of marketing, quality, domestic uses, and exports. Costs of production and crop position are discussed in special chapters after the individual crops.

Wheat and corn were treated in full in the Yearbook of 1921 and are not discussed here, except in so far as they affect these other crops in farm organization and in uses.

Damage by rodents to agricultural products, chiefly grain crops, in the field has been estimated by the Department of Agriculture at more than \$150,000,000 annually, while house rats and mice take an added toll of \$200,000,000 through damage to grain and its products in storage and transit.

Food Value of Cereals.

Cereal grains are very valuable foods because of the large amount of starch, about 75 per cent of the total grain, which they supply for body fuel, and the 8 or 10 per cent of protein which, with 2 per cent of ash and 2 to 3 per cent of fat, make up the nutritive substances present. The germ portion of the grain supplies vitamine and the outer or bran layers add bulk to the diet and are regarded as laxative. The average fuel value is around 1,600 calories per pound.

Oats.

The Importance of Oats.

Of the major cereal crops of the United States the oat crop ranks third in importance. In acreage and value it is exceeded only by corn and wheat (Fig. 1). The important and rather unique place this crop occupies, regardless of the fact that its cash value alone seldom offers much inducement for production, is due to (1) its unsurpassed feeding value for horses and young stock, (2) the difficulty of replacing it by any other crop in our general farming system, and (3) the economy of labor in growing and handling the crop.

Oats traditionally constitute the banner horse feed of the world. Their bone and muscle building ingredients also make this grain most valuable for feeding young stock, as well as for feeding breeding stock.

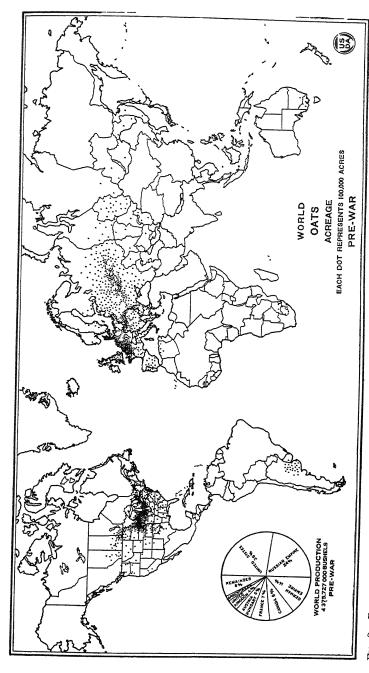
Oats usually are not considered a cash crop. They are grown largely to complete the rotation system in order that wheat and other cash crops may be grown successfully. There is no other crop that fits in as well as do oats between corn and wheat or corn and grass in the rotations and utilizes land and some labor that might otherwise be unproductive. In some sections barley or soy beans may be substituted with good results, but under most conditions these crops have certain disadvantages that still make oats the most satisfactory intermediate crop.

Economy of labor in the production of oats also is an important factor. Usually no plowing is necessary in preparing the seed bed, particularly where the crop follows corn.

World Production of Oats.

The distribution of oat acreage throughout the world and the average percentage of total production which was furnished by each of the leading producing countries in about five years ending with 1914 is shown on the map in Figure 2. The two great centers of oat production were found in western Europe and the north-central portion of the United States. Slightly more than one-fourth of the world oat crop was produced in the United States. Russia was a very close second, with 24 per cent of the total. Other countries of large production were Germany, Canada, France, Austria-Hungary, and the United Kingdom, in the order named.

During the 20-year pre-war period from 1895 to 1914, inclusive, the annual production of oats in the United States averaged, in round numbers, 969 million bushels, in Russia 901, in Germany 523, in France 317, in Austria-Hungary 221, and in the United Kingdom 176 million bushels. In



Canada, France, and Austria-Hungary followed in the order named. Complete postwar statistics are not available from several important producing countries. Like wheat, most of the world oats is produced in the North Temperate Zone. The United States led in acreage then, with Russia a close second Fig. 2,---Pre-war oat acreage and production of the world.

the last seven years of this period Canada, for which earlier annual statistics are not available, outranked both the United Kingdom and Austria-Hungary. In the period from 1915 to 1922, inclusive, average production in the United States has increased about one-fourth over that of the pre-war period.

The production of the oat crop is chiefly in the cooler portions of the North Temperate Zone. A relatively small production occurs in Australia, South Africa, and South America. In Europe, especially, oats are grown in a cooler and moister climate than wheat. The northern geographical limit of oat production extends to the Arctic Circle in Sweden and Finland.

Oats, like rye, enter much less into commerce than wheat or barley, because they are too bulky in relation to price to bear the cost of long-distance transportation. Therefore, the greater portion of the crop always is consumed in the country in which it is produced.

Trend of Production in the United States.

Acreage and production of oats in the United States have increased rapidly and consistently since annual estimates became available in 1866 (Fig. 3). However, production has shown some fluctuation, due chiefly to low acre yields in poor oat years and high acre yields in good years. The peak of production occurred in 1917, when the United States produced 1,592,740,000 bushels of oats. The largest acreage up to the end of the World War was grown in 1918, when 44,-349,000 acres were harvested, from which 1,538,124,000 bushels were garnered. The heavy drop in acreage in 1919 was followed immediately by a rise to 42,491,000 acres in 1920, and a still further increase to 45,495,000 acres in 1921, the greatest acreage ever grown. Following the record acreage of 1921 with an average acre yield of 23.7 bushels, the lowest since 1890, a decided drop in acreage occurred again in 1922, when only 40,693,000 acres were grown. yield also has increased rather steadily since about 1890.

The farm price of oats fell while the acreage was expanding rapidly, and continued to fall to 1896, since which year the trend of prices has been upward.

124 4

OATS: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866-1922.

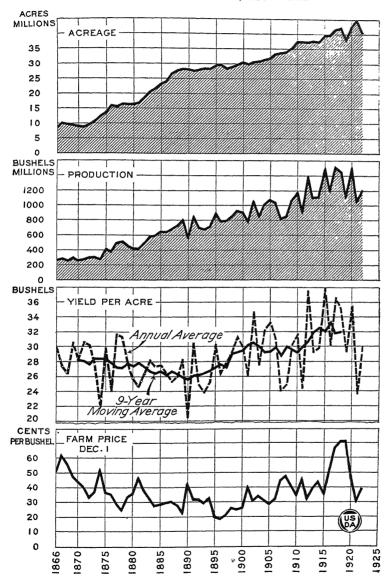


Fig. 3.—The average of oats has increased steadily since 1865, though the production shows the effects of seasonal variations in yield. Acre yield increased in general from 1890 to 1915, but apparently has decreased since. Price was lower in 1921 than at any time since 1905.

Historical Development of Production.

The early history and development of oat production in the United States closely parallels that of wheat. Culture of the crop began on the Atlantic seaboard about 1630 or earlier, and was carried westward with the march of settlement. Like wheat, the first great shift in oat production westward followed the close of the Revolutionary War and extended up to the middle of the last century. Production in this period was carried across the Appalachian Mountains into the Ohio Valley and the prairie region immediately to the west (Figs. 4–11).

From 1871 to about 1890 was a period of very rapid expansion in oat acreage, as it also was a period of very rapid expanison in American agriculture. As the area expanded the acre yield dropped. This expansion took place mostly in the Corn Belt. From 1890 to about 1905 the area seeded to oats expanded more slowly and the acre yield increased, resulting in a gradual increase in production. This was followed by rapid expansion of acreage in the upper Mississippi Valley, which raised the acreage to the high point reached in 1918.

Natural Factors Influencing Production.

Among the important natural factors influencing the production of oats from year to year are climatic conditions, such as moisture and temperature, and pests, such as fungous diseases, insects, and rodents. Those making up the climatic conditions are the most important.

Oats attain their best growth in regions of coo, moist climate, such as are found in many of the northern European countries, in the northern United States, and in Canada. In these areas the varieties of the species Avena sativa L. are grown exclusively, and are spring sown. In the United States this type of oat is best represented by such well-known varieties as Swedish Select, Silvermine, Kherson, White Tartar (White Russian), etc.

In regions of high temperatures, such as the Mediterranean countries, Australia, the southern United States, and California, this type of oat is not adapted. In these areas

the culture of oats is limited to the varieties of another species, Avena byzantina C. Koch (A. sterilis L.). This is a distinct type, adapted to warm climates, and is represented in this country by the well-known Red Rustproof variety and its relatives. In the southeastern States, where the winters are mild, the Red Rustproof oat is grown from both fall and spring sowing.

Moisture.—The great oat-producing areas are confined mostly to the more humid portions of the United States. Precipitation therefore is not as much of a limiting factor in the production of oats as in wheat. The seasonal distribution of the precipitation in the production of oats frequently is more of a limiting factor than the total rainfall.

Temperature.—Conditions of temperature also frequently have a similar effect. The occurrence of hot, dry weather during the ripening period is one of the most common causes of reduced production in the Corn Belt. As less than one-tenth of the oat crop is fall-sown, winter-killing is not an important factor in oat production.

Table 1.—Estimated	annual	loss	of	oats	from	disease,	1917-1931,
	á	inclus	8122	o,			

Disease.	1917	1918	1919	1920	1921
Smuts	Bushels. 91,648,000	Bushels. 64,396,000	Bushels. 39,238,000	Bushels. 40,143,000	Bushels. 35,810,000
Stem rust	27,502,000	(1) (1)	15,027,000 15,167,000	14,783,000 6,785,000	16, 223, 000 21, 874, 000
Other diseases	34, 825, 000	(1)	8, 915, 000	16, 488, 000	25, 252, 000
Total loss	153, 975, 000	(1)	78,347,000	78, 199, 000	99, 159, 000

¹ No estimate made

Fungous diseases.—The oat crop is subject to several diseases, chief among which are loose and covered smuts, stem rust, and crown rust. Of these, the smuts and stem rust are the most destructive. The smuts are easily controlled by seed treatment, a practice now quite generally adopted throughout the principal oat-producing sections of the country. The rusts, however, can be controlled only through the general adoption of rust-resistant varieties, the develop-

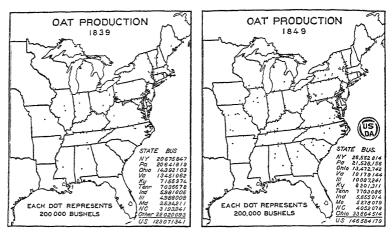


Fig. 4—In 1839 production of oats was confined almost entirely to the territory east of the Mississippi River. Already more than half the oats produced were grown west of the Allegheny Mountains, the Ohio Valley having become an important area of production. Production was just beginning in southern Michigan and in Illinois. In the decade ending with 1849 the States leading in production remained the same as in 1839. Production advanced slightly northward in Michigan and Wisconsin. The growing of oats spread rather generally over Missouri and production began in southeastern Iowa. There also was some expansion southward.

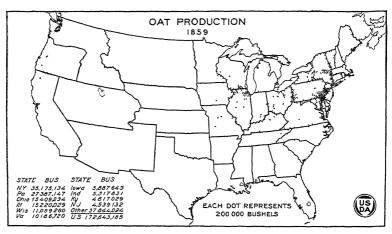


Fig. 5.—During the decade ending with 1859 oat production continued its advance westward. With the settlement of California, following the discovery of gold, production began in that State. Production also was started in western Oregon. Rapid expansion took place northward into Michigan and Wisconsin and westward into Iowa. Oat growing was started in southeastern Minnesota and also in northeastern Texas. Coincident with a marked decline in the South, Illinois, Iowa, and Wisconsin were rapidly becoming important States in oat production.

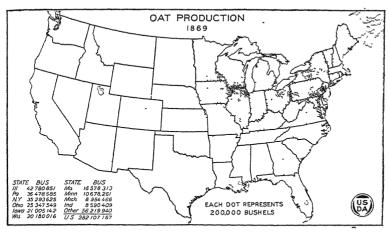


Fig. 6.—In the 10-year period ending with 1869 there was a notable shift westward in the production of oats. The center of production moved from the Ohio Valley to the Upper Mississippi Valley. Illinois replaced New York as the leading State in production. Oat production crossed the Missouri River into Nebraska and Kansas, and also increased in the Pacific Coast States. The greatest expansion occurred in Illinois, Iowa, Wisconsin, and Minnesota. In the States east of these there were no marked changes.

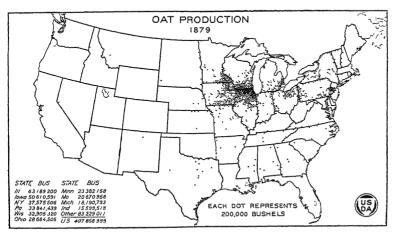


Fig. 7.—During the 10-year period ending with 1879 the westward advance of oat culture continued. Iowa became important and pushed New York into third place. Production also extended northward in Wiscousin and Minnesota, and these had become important oat-producing States. There was a slight resumption of oat production in Georgia and Alabama and some expansion in northeastern Texas. The California production declined, but that in the Rocky Mountain and Great Basin States increased rapidly.

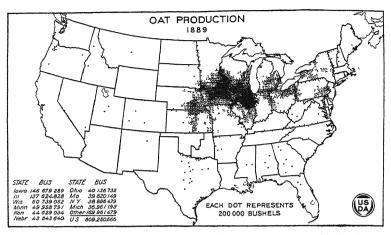


Fig. 8.—During the decade ending with 1889 the total oat production in the United States was doubled. While there was a marked extension westward into Kansas, Nebraska, and the Dakotas, the great increase in production was due mostly to the enormous expansion of oat acreage in Illinois and Iowa, following a decrease in spring-wheat production. These States had become decidedly the most important in oat production. The development of the self-binder as an efficient implement of production contributed largely to the great increase of oat production during the decade, particularly on the rich prairies of the Upper Mississippi Valley States.

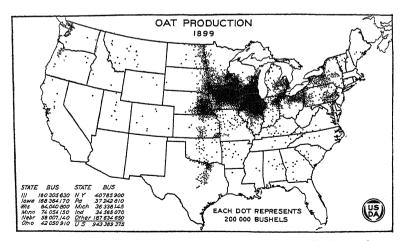


Fig. 9.—In the decade ending with 1899 no great increase in the total production of oats occurred. This apparently was due to an overproduction and the extremely low farm prices which prevailed at that time. With the concentration of oat production in the States of the Upper Mississippl Valley, particularly in Illinois and Iowa, and a corresponding development of railroad transportation, a slight decline in oat production took place in New England, eastern New York, New Jersey, and the South Atlantic States.

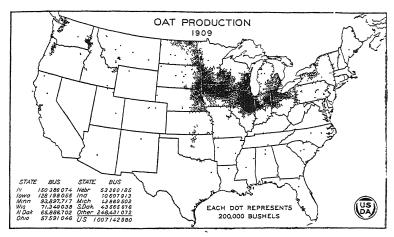


Fig. 10.—Total oat production in the United States in 1909, as in some previous years in this decade, exceeded a billion bushels. The expansion of oat growing in Minnesota, the Dakotas, and other more western States contributed largely to the increase in total production. The decreased production in Illinois and Iowa as compared with 1899 was due more to a lower acre yield in 1909 than to decreased acreage.

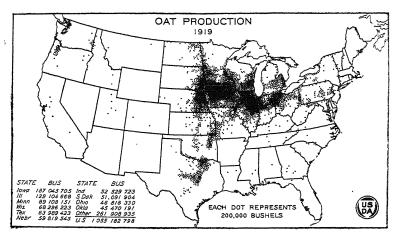


Fig. 11.—During the decade from 1910 to 1919, inclusive, a second great increase in oat production took place in the United States (see Fig. 3), though both acreage and production were low in 1919. In this period the annual production of oats reached the enoimous figure of 1½ billion bushels, or a third of the world's production. This second great expansion of oat production was due primarily to the advent of the World War which stimulated prices. More oats were grown in the oat belt and in the southern half of the Great Plains area, especially in central Texas, in 1919, but fewer in the West and Southeast.

ment of which appears promising. The relative economic importance of the diseases of oats is given in Table 1.

Insects.—The growing oat crop is almost free from insect attack except for the periodical inroads caused by outbreaks of the green bug and the oat aphis. This crop is the preferred food of the green bug; but were it not for the lax methods of culture in vogue in parts of Texas, Oklahoma, Kansas, and Missouri in permitting the continuous growth of volunteer oats for forage purposes, this source of interference with the production of oats would be practically eliminated. In 1907 and in 1910 outbreaks of the green bug in the section mentioned caused the abandonment of at least 50 per cent of the acreage in the districts most severely affected.

Marketing Oats.

The oat crop is not as important commercially as wheat and corn. According to the census data, slightly less than a third of the national production of oats in 1919 was sold by farmers. Farm consumption apparently absorbed the remainder of the crop. Of the part sold by farmers a larger proportion goes to terminal markets than in the case of corn, much of which is sold by one farmer to another for feeding and thus never reaches the terminals.

The United States grain standards act requires oats offered for sale in interstate shipment to be inspected and graded by a licensed inspector in accordance with the official standards for oats. These standards divide oats into classes and grades which designate the kind, quality, and condition of the oats.

Classes.—For commercial purposes oats are separated on a color basis into four classes, namely, white, red, gray, and black oats. In this classification white oats include yellow oats.

Grades and grading.—All classes of oats are divided into four numerical grades (1, 2, 3, and 4), dependent upon the following factors: Condition and general appearance, test weight per bushel, sound oats, heat damage, wild oats, and mixtures of other classes of oats. Oats failing to meet the specifications for any one of the four numerical grades are

graded "Sample grade." The oat inspectors are not employees of the Government, but are licensed by the United States Department of Agriculture for the purpose of making inspections. These inspectors usually are employed by State grain inspection departments, chambers of commerce, and boards of trade, but in some cases they operate independently on a fee basis.

Quality as shown by grade.—The annual variation in quality of each class, as shown by grade, for the three crop years July. 1919, to June, 1922, inclusive, and the three-year average are shown graphically in Figures 12 and 13.

Oat Foods, Feeds, and Feeding.

About 3 per cent of the oat crop of the United States is milled for human consumption. This amounts, however, to many thousands of tons. The oat kernel resembles wheat in composition, but contains less carbohydrate and more fat. Oatmeal and similar oat preparations are commonly used as a breakfast food or porridge, and to a very limited extent for puddings and other dishes. A crisp oat bread often is made in England and sometimes in the United States. Oatmeal crackers also are manufactured here.

The by-products from the milling of oats are the basis of a large mixed-feed industry. These by-products are oat feed and oat middlings. They rarely are sold unmixed. The oat middlings are a valuable feed, being high in protein and low in fiber. The oat feed, however, contains oat hulls, often in large amount, which results in low protein and high fiber content, and therefore in lowered feeding value.

Oats are not directly comparable with corn (Fig. 14) as a fattening feed on account of their bulkiness and different composition. For breeding stock oats are superior to corn, as they are relatively richer in protein and mineral matter. Oats contain more crude fiber than any of the other common feed grains. Their greatest usefulness is in feeding horses, for which there is no better feed. Commonly speaking, for horse feeding 2 bushels of oats are equal to 1 bushel of corn. Because of the coarser nature there is not so much danger of overfeeding horses with oats as with corn. Oats are very

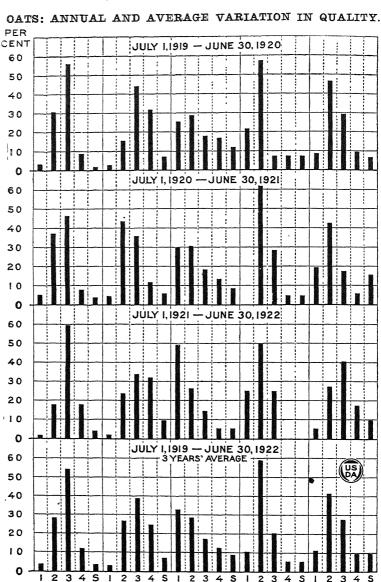


Fig. 12.—Annual and average quality of oats in the three crop-movement years from July 1, 1919, to June 30, 1922, as shown by percentage of total receipts falling into each grade in all five classes at all inspection points, and by the average for the entire three-year period. In most classes much the larger proportion of the total receipts falls into grades 2 and 3. In the gray-oat class, produced chiefly in Oregon and Washington, the larger proportion falls into giade 1. The tendency of oats to discolor quickly is responsible for the large quantity that falls into grade 2.

2 3 4 S 1

GRADES

GRAY

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2 3 4

GRADES

BLACK

s

I 2

3 4

GRADES

2 3 4

GRADES

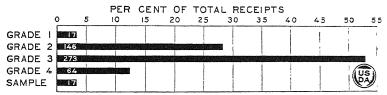
ı 2 3 4 S

GRADES

RED

valuable for diluting a heavy grain ration, such as corn. They may be fed whole to mature stock, but for young stock they generally should be ground, or preferably rolled. For young stock, also, some less bulky grain should be included

AVERAGE QUALITY OF ALL CLASSES OF OATS.



Figures on bars indicate thousands of cars received

Fig. 13.—The average quality of all classes combined, being the average of the average by classes shown in the lower section of Figure 12, and covering the three years from July 1, 1919, to June 30, 1922—About 53 per cent of all classes fell into grade 3 and about 28 per cent into grade 2.

in the ration. Oats are shipped about the country in large quantities for use as horse feed, but seldom for other classes of live stock.

Situation and Outlook.

The production of oats in the United States probably has reached its highest point. It is probable that the acreage of this crop will be somewhat reduced during the present decade. The advent and rapidly increasing use of motorized

OATS AND CORN FOR FATTENING HOGS.

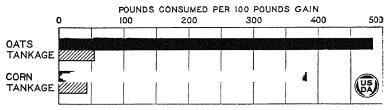


Fig. 14.—This graph is based on the results of two experiments at the Ohio Agricultural Experiment Station, as published in Bulletin 268. In the first experiment, two lots of 5 pigs each, averaging about 50 pounds, were fed for 126 days. The oat-fed pigs did not relish their ration at first. In the second experiment, two lots of 5 shotes each, averaging about 150 pounds, were fed for 84 days. It is concluded that whenever corn is worth more than 2½ times as much as oats per bushel, oats can be satisfactorily used to fatten logs, especially in the first part of the feeding period.

transfer and trucking in both the city and country are markedly reducing the commercial demand for feeding oats. The farm tractor also probably will reduce the number of work horses on the farm, thus further reducing the quantity of oats required. However, there still will remain a demand for oats by certain industries that will continue to use horses. Notwithstanding the rapid development of the farm tractor, a large percentage of the farms of the United States will continue to be tilled by the use of the horse as the chief source of motive power, and consequently oats will continue to be in demand as one of their principal feeds.

Barley.

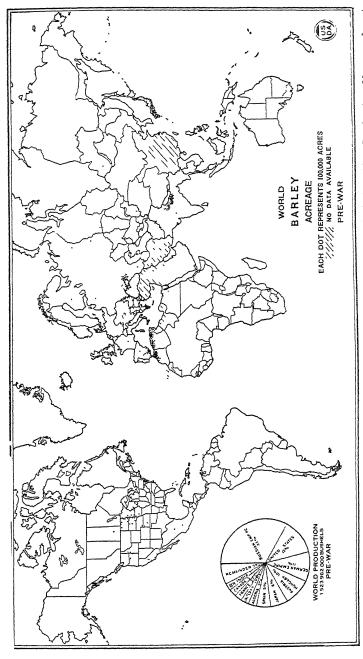
Importance of the Crop.

Barley ranks fourth in importance among the cereal crops of the United States, being exceeded in value by corn, wheat, and oats (Fig. 1). The importance of barley in American agriculture is increasing, even though the production is not. The average annual production of barley for the 10 years 1913 to 1922, inclusive, was about 193 millions of bushels. This is not a large quantity when compared with the production of corn or oats; nevertheless, it is significant. Much barley is grown outside the regions where corn and oats do well and furnishes a grain feed for live stock in these regions. Barley gives a high return per acre in feed and the amount fed on farms where grown is constantly increasing.

World Production.

The average annual world production of barley in the 10 years from 1906 to 1915, inclusive, was 1,400,000,000 bushels. This may be considered as the normal world crop. In pre-war times Russia produced over 25 per cent of the world crop. Over half of the total barley export of the world normally came from Russia.

Barley is extensively cultivated in northern India, central Europe, Spain, North Africa, and Japan (Fig. 15). The percentage of the cropped land in barley is highest in Algeria and Japan. Barley is a dominating crop in Al-



of northern Africa. The four great centers of production are seen to be in southern and western Burope and northern Africa, the No statistics were available for China, Persia, Asia Minor, and part United States, British India, and Japan. Complete statistics are not available for many of the large producing countries, notably Fra. 15.--World pre-war acreage and world production of narley. Russia, since the war.

geria. The climatic conditions of Algeria are not unlike those of California, where barley is the dominant crop in large sections. Since 1916 the average annual reported production has been little more than 1,000,000,000 bushels, but complete statistics have not been available from Russia and other important producing countries.

Trend of Production in the United States.

The acreage annually sown to barley increased uniformly from 1866 until 1910, when it reached more than $7\frac{1}{2}$ million acres (Fig. 16). Since 1910 the average acreage of barley has been about stationary, although the annual acreage has fluctuated violently, due to war conditions.

The acre yield has remained close to 25 bushels since the Civil War. The areas of production have shifted greatly during the years since 1910, and especially since the enactment of prohibition legislation. While the acreage is the same total, the geographic location is quite different. In those sections where barley was grown as a money crop the acreage has decreased rapidly. This has been balanced by an increase on scattered farms over the whole barley-growing areas of the United States for the purpose of securing feed. The present trend is toward less localization of production and a greater farm use.

In Figure 17 are shown for the 14 years, 1909 to 1922, inclusive, the total production of barley, the quantity moved from the county in which it was grown, including exports, and the quantity consumed in the county where grown. The graph shows that there has been a steady decrease in the percentage of the crop shipped out and a correspondingly steady increase in the proportion used where grown. This has occurred in spite of the fact that exports have not decreased.

Historical Development of Production in the United States.

Barley was introduced by the early Dutch and English settlers into the Atlantic coast colonies and by the Spaniards into Mexico and the Pacific coast. In Mexico and California barley grew well, and the crop soon was established wherever there were settlements. In the East the districts first

BARLEY: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866-1922.

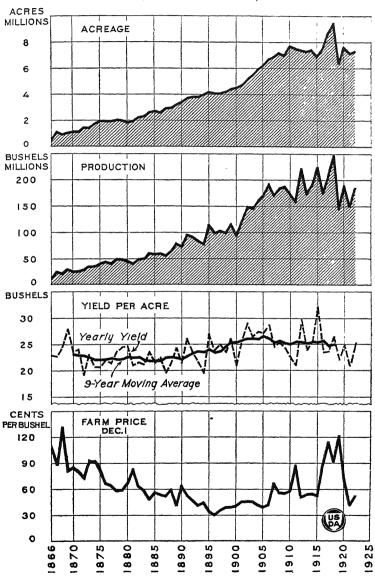


Fig. 16.—Acreage and production steadily increased since annual estimates became available in 1866 until very recent years. Acre yield also increased until 1905 and recently has been fairly stationary at about 25 bushels. Farm price decreased until 1896, then increased until 1919, and since then has dropped rapidly.

settled were not suitable for barley growing. Some barley was grown, but English malt was imported to supplement the domestic production.

It was only when central and western New York were settled that a large area favorable to barley production was brought under cultivation. Barley rapidly followed the progress of settlement into the interior States.

BARLEY: PRODUCTION, EXPORTS, MOVEMENT FROM COUNTY WHERE GROWN, AND LOCAL CONSUMPTION, 1909-1921.

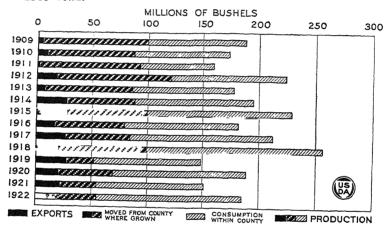


Fig. 17.—Since 1909 the proportion of the barley which moves from the county where grown has decreased steadily, in spite of increased exports, as local consumption for feeding stock has increased.

As transportation of malt was expensive, barley was grown in all sections for a time, regardless of the suitability of local conditions. As transportation facilities improved barley culture was dropped in the less favorable areas and expanded in the more favorable ones. Thus important barley-producing centers developed successively in New York, California, Wisconsin, Minnesota, the Dakotas, and Kansas, as shown in Figures 18 to 25, inclusive.

Factors Affecting Barley Production.

Climate and soils.—At the present time there is in progress a marked shift in the location of the barley acreage. Changes in the acreage have come about in the past and are now being brought about largely by two factors, namely, the fitness of barley for certain geographic conditions and legislation affecting the market. The barley plant is adapted to regions of cool summers where the soil is not too sandy, but is well drained. It does not do well on poorly drained soils. It does not do well under humid conditions where high temperatures prevail. Under arid and semiarid conditions it can be grown even in the Tropics if sufficient water is available.

Acre value.—Under suitable conditions of soil and climate barley yields more in pounds of feed per acre than any other small grain. These conditions are common to the northern tier of States as far west as the Missouri River and to all of the Western States. Due to the fact that the rough awns of barley make it a disagreeable crop to handle, farmers seldom grow barley unless the returns are manifestly greater than could be secured from a cereal more easily handled or unless a better distribution of farm labor is obtained. In the central valley of California neither wheat nor oats has given nearly as high an average acre return as has barley. In certain sections of this valley barley is a dominant crop for this reason.

Early maturity.—A part of the barley acreage of the Dakotas is due to another factor. Barley is a crop which matures quickly, and therefore can be seeded later than spring wheat or spring oats and still produce a satisfactory crop. The highest yields of barley are secured from early seeding. Its quick maturity, however, allows it to be used for late seeding where few other crops could be sown to advantage. A considerable proportion of the crop of North Dakota and South Dakota has always been of this nature.

Effect of prohibition.—The most recent factor affecting the production of barley has been the prohibition of brewing. This came at a time when a very fundamental change in barley production was taking place. The high acre yield of barley in pounds of feed was being recognized in the increased acreage of the crop and in the percentage of the crop fed on the farms where grown (see Fig. 17). The percentage of the barley moved out of the county where grown was increasing steadily before the prohibition of brewing. This legislation did not cause any abrupt accelera-

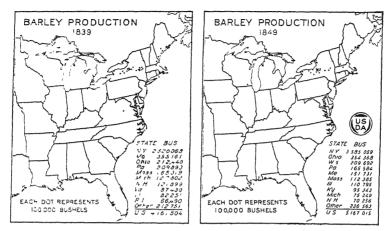


Fig. 18—In 1839 most of the barley of the United States was produced in New York. The production was heaviest along the line of the Eric Canal. There also was a fringe of production near the coast of New England and a small acreage on the favorable soils of southeastern Pennsylvania. The production of barley in 1849 was still centered in New York State. In the Mississippi Valley a city demand for barley for brewing was reflected in the beginnings of production near Cincinnati, St. Louis, and Milwaukee.

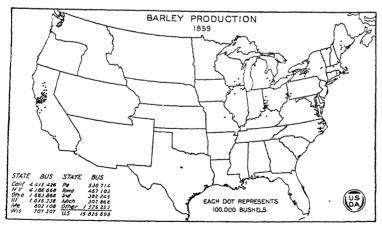


Fig. 19.—By 1859 New York was losing its dominant position in barley production. Production had increased in southwestern Ohio, about Cincinnati, and still more notably in northern Illinois and southern Wisconsin. In this section barley had spread away from the local city market and become a general farm crop. Only a slight increase took place near St. Louis. The settlement of central California, following the discovery of gold, resulted in a production in the State fully as great as that in New York.

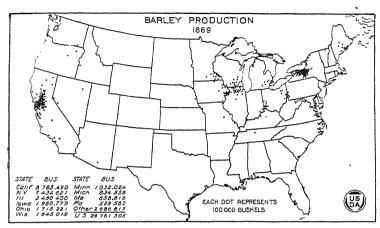


Fig. 20.—In the decade from 1860 to 1869 barley became commonly cultivated in southeastern Minnesota and its culture was begun in eastern Oregon and Washington. There was a notable increase in southern Wisconsin and northern Illinois, and some increase in the southern section of the Great Plains area and in the Mountain States. California and New York, however, remained the most important producing States.

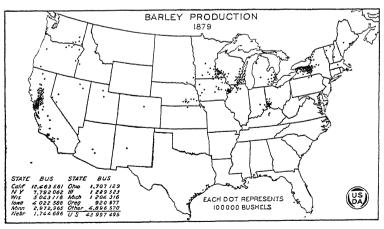


Fig. 21.—In the years from 1870 to 1879 the total production of barley in the United States increased almost 50 per cent. The culture of barley was extended westward into eastern Nebraska and southeastern Dakota. It also became more widely distributed in the Pacific Coast States, while a small production was developing in Utah, Nevada, and Arizona.

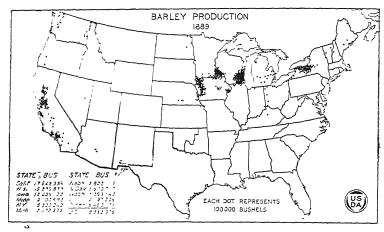


Fig. 22.—By 1889 there was a marked concentration of the areas growing barley for the malting market. On the favorable soils of western New York, southeastern Wisconsin, southeastern Minnesota, and northwestern Iowa, and in the central valley of California barley was grown as a money crop. At the same time production was increasing in the Red River Valley of Minnesota and North Dakota. The production of barley about Cincinnati decreased in the face of competition from the northern Mississippi Valley.

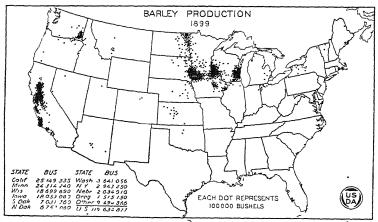


Fig. 23.—In 1890 the tariff on barley was raised to 30 cents per bushel. The malt houses of western New York had been securing part of their barley from Canada, but this tariff made the importation of barley unprofitable. The near-by supplies were insufficient and the malting industry was transferred to Wisconsin and Minnesota. In New York the area devoted to barley decreased after 1890. Production increased notably in Minnesota and California, also in eastern Washington and Oregon, in the Red River Valley, and in the central section of the Great Plains area.

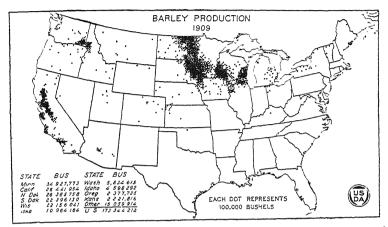


Fig. 24.—The decade ending in 1909 was marked by the rapid expansion of the acreage in the Dakotas and the definite beginning of a center of production in northwestern Kansas. Minnesota was now the leading State, producing, with the Dakotas, almost half of the national crop. California, however, was a close second to Minnesota, with an average production of 29 million bushels in the last five years of this decade

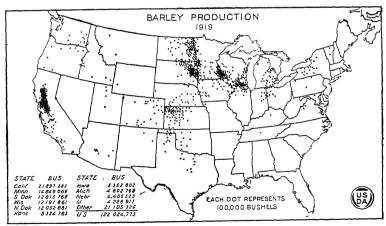


Fig 25.—The production of barley in 1919 was abnormally distributed. The great increase in the spring-wheat acreage in the Dakotas, coupled with a low acre yield of barley, resulted in a lower production in these States in 1919 than in the years before or since. The decrease in southeastern Minnesota in 1919 was caused chiefly by the gradual drift away from barley as a money crop, a process which had been going on since 1910. The most remarkable development of production was in the central Great Plains area, especially Kansas. This probably is part of a permanent modification of the agricultural practice of the section.

tion of this movement. The effect of the regulation has been less than might have been expected.

The brewers of the United States were using slightly more than 50 million bushels of barley each year at the time when brewing was prohibited. This 50 million bushels, while constituting only about 30 per cent or less of the crop, did cause a premium to be paid for the highest grades of barley. The larger part of the crop, however, was marketed in competition with oats and corn as a feed grain. With the coming of prohibition the market for fancy barley did not disappear. There is still some demand by the malt houses for barley in the making of near beers.

Foreign demand.—The export demand also has increased. Before the war Europe imported about three times as much barley from Russia as was used in our malt houses. This Russian supply has been cut off. Our annual exports are possibly 15 million bushels greater than they will be when Russian barley again is available. A part of the present foreign demand has been for high-grade barley, and at present there is a resulting difference in price per pound of fancy and low-grade barley that does not exist in other feed grains. The final effect of prohibition is likely to be a loss of the premium for the fancy grades of barley.

Table 2.—Estimated annual loss of barley from disease, 1917-1921, inclusive

Disease.	1917	1918	1919	1920	1921
Loose smut	Bushels. 7,385,000 2,212,000 1,991,000 664,000 12,252,000	Bushels. { 2,381,000 5,350,000 8,802,000 { (1)	Bushels. 1, 369, 000 1, 868, 000 1, 898, 000 4, 368, 000 (2) 942, 000	Bushels. 1, 385, 000 1, 992, 000 786, 000 3, 628, 900 242, 000 1, 714, 000	Bushels 764,000 694,000 1,041,000 1,704,000 (2) 5,021,000

¹ No estimate made.

Fungous diseases.—The most important diseases of barley are covered and loose smuts, stripe disease, and scald. The smuts of barley usually occur to some extent wherever the crop is grown, and may cause losses ranging from a trace

² Negligible damage.

to 50 per cent. They can be prevented by seed treatment. The stripe disease, most prevalent in the northern Mississippi Valley, occasionally causes losses as high as 40 or 50 per cent, but usually much less. Barley scald is important in California, where it may reduce yields very considerably. The most destructive barley diseases and the estimated annual losses they cause are listed in Table 2.

Insects.—Barley is subject to periodical heavy infestation by the Hessian fly when grown in the regions where this insect is most abundant; but as the present principal areas of barley production in this country lie outside of the preferred habitat of the Hessian fly, comparatively little general injury from this pest has yet occurred. During the first half of the nineteenth century, when the center of barley culture in this country was in the Northeastern States, great injury was done to this crop by the barley jointworm.

Marketing Barley.

As indicated in the discussion of the trend of production in this country, a decreasing proportion of the barley produced in the United States goes to market. For the central producing area Minneapolis and Chicago are the principal central markets.

There are no Federal grades for barley. Grades are in use at certain markets, but they were established by the States or by the exchanges. The grades at the different markets vary in their requirements and therefore are not fully comparable one with another. In Figure 26 the percentage of barley falling into the various grades is given for the Minnesota market for the two years from September 1, 1920, to August 31, 1922, and for the Chicago market for the two years from September 1, 1919, to August 31, 1921.

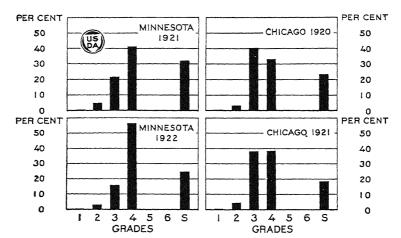
The barley coming to these markets is almost wholly of the Manchuria type, from the States of the upper Mississippi Valley, except in years of short crop in that area when barley is received from more Western States. These receipts therefore do not indicate the character of the western barley. The two-rowed brewing barleys are not included in the data for the graph, as the receipts of two-rowed barley are insignificant.

498 Yearbook of the Department of Agriculture, 1922.

Most of the barley on the Chicago and Minneapolis markets (Fig. 26) falls in grades 3 and 4. On those markets grade 3 allows a bushel weight as low as 44 pounds, a weed-seed and dirt content as high as 3 or 4 per cent, and a maximum of 7 per cent of other grains, which may include 4 or 5 per cent of wild oats.

Barley Foods, Feeds, and Feeding.

Barley is used for brewing, feeding, and pearling. In composition barley resembles wheat. For human food it



BARLEY: ANNUAL VARIATION IN QUALITY.

Fig. 26.—Annual quality of barley inspected by the State Grain Inspection Department of Minnesota at several points, chiefly Minneapolis and Duluth, in the two years from September 1, 1920, to August 31, 1922, inclusive, and by the Illinois State Grain Inspection Department at Chicago in the two years from September 1, 1919, to August 31, 1921. In both States most of the barley is graded Nos. 3 and 4 and sample grade.

is used chiefly in the form of pearl barley for thickening soups and for other purposes, and of ground barley for making an infant food. It has some use, also, as a breakfast food. In times of stress, when the use of wheat is restricted, barley is utilized as a wheat substitute in baking, as was the case in this country during the World War.

The by-products of brewing are malt sprouts and dried brewers' grains. The former are not very palatable and are not in great demand, but the latter are one of the best dairy

1 1951

feeds. The by-products of pearling barley is "barley feed" and consists of the hull, the bran layers, and part of the starchy portion. The by-products of barley are good feeds. The hulls alone have very little feeding value and one should avoid depending too much upon feeds composed chiefly of hulls for satisfactory growth, maintenance, or fattening. Barley fed as a whole grain usually is consumed in sections where it is raised.

Barley generally is considered about 90 to 95 per cent as valuable as corn for fattening live stock (Fig. 27). Although it is a good feed for all stock, it should be crushed or rolled for sheep, hogs, and all young stock. If

BARLEY AND CORN FOR FATTENING HOGS.

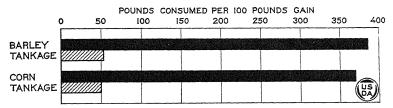


Fig. 27.—This graph is based on the results of two experiments in feeding barley at the Colorado Agricultural Experiment Station, as published in Bulletin 165. In the first experiment, two lots of 10 pigs each, averaging 66 to 70 pounds per head, were fed for 13 weeks on grain and tankage in the ratio of 10 to 1 by weight. In the second experiment, two lots of 8 pigs each, of similar weight, were fed for 15 weeks on grain and tankage in the ratio of 6 to 1. In some experiments barley has given equally as good results as corn, while in others it has been slightly inferior.

ground fine the flour produced makes mastication difficult and the animals do not like the grain as well and eat less of it than when it is rolled. It should not be the only grain in a heavy ration for young pigs, as the hulls may irritate the digestive system. It is often used in preference to corn for show cattle because it does not make such hard flesh. While it is slightly richer than corn in digestible protein, it also should be supplemented with some protein concentrate or legume roughage.

The Situation and Outlook.

The present situation and the future outlook is encouraging. The acreage in California is likely to be maintained because of the high relative yield of barley. The California

barley also is better suited to the needs of European brewers in those countries where the use of malt adjuncts in the manufacture of beer is prohibited.

Barley always will be useful as a late-sown crop in the Dakotas. Recently there has been a marked increase in the acreage sown early as a preferred crop in South Dakota. Barley has been giving a return per acre that has justified its being given the preference in soil preparation and in time of seeding. A decreasing proportion is being seeded later than its optimum season.

The type of farming in southeastern Minnesota has gradually changed from grain farming to combined stock and grain farming and the barley acreage has decreased, as has that in Wisconsin.

In northwestern Kansas there has been a marked increase in the acreage. In this section it has been found that barley yields a very high return as a spring-sown crop. It fits in well with the culture of winter wheat as the acreage can be expanded or contracted to complement the fluctuations of the wheat acreage, especially when winterkilling occurs.

In the Mississippi Valley farmers and feeders generally have not been familiar with the use of barley. Most of the better grades have been marketed and the lower grades have been utilized in mixed feeds or on the farms where produced. The advent of prohibition probably has assisted in the spread of information on the ways of using barley in feeding.

In eastern Canada a large acreage is devoted to the production of mixed grains for feed. The Canadians have found that barley and oats sown together produce decidedly more feed to the acre than either sown alone. This custom is becoming more common in New York State, and the acreage of barley in pure and mixed fields is increasing.

In general, the trend at the present time is toward an increase in the farm use of this grain for feeding stock. The very high acre return is gradually causing a higher appreciation of barley as a feed crop. It seems probable that barley itself will be grown in the future on more farms and over a wider area in the United States, but less extensively in special areas than in the past. It is likely also that the proportion of barley consumed on the farm where grown will continue to increase.

Rye.

Importance of the Crop.

Rye is a comparatively unimportant crop in the United States (Fig. 1). It formed less than 1 per cent (0.8) of the total value of the 20 principal crops in 1919, and occupied only 2 per cent of the total acreage of these crops, although about two and two-thirds times as much rye was grown in that year as in any previous census year. The production per capita of the population was less in 1919 than in 1839, and was less than one-tenth that of wheat. In certain areas, however, rye is an important crop. It has recently become quite important in the subhumid lands of the northern Great Plains area. Previously it had been grown mostly in the sandy sections of the Great Lakes States.

World Production of Rye.

The pre-war world production of rye amounted to about 1½ billions of bushels annually, or nearly one-half the annual wheat production. Before the World War Russia produced more than one-half the world crop of rye, Germany about one-fourth, and Austria-Hungary nearly one-tenth of the world crop. These three countries combined produced 86 per cent of the total world crop of rye in the five-year period 1910–1914. About 96 per cent of the rye crop of the world was produced and consumed in Europe. During this period the United States produced about 2 per cent of the total rye crop of the world. In the last 10 years rye production in the United States has been increasing.

Trend of Acreage, Yield, Production, and Price.

The acreage of rye in the United States showed a downward trend from 1867 to 1872 (Fig. 28) and an upward trend from 1873 to 1882. It then remained practically stationary throughout the 31-year period from 1882 to 1912. From 1913 to 1919 a rapid increase in acreage took place because of enlarged European and domestic demand resulting from the World War. The large increases in 1917 and 1918 were 37 and 41 per cent, respectively, of the acreage of the preceding year.

RYE: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866-1922.

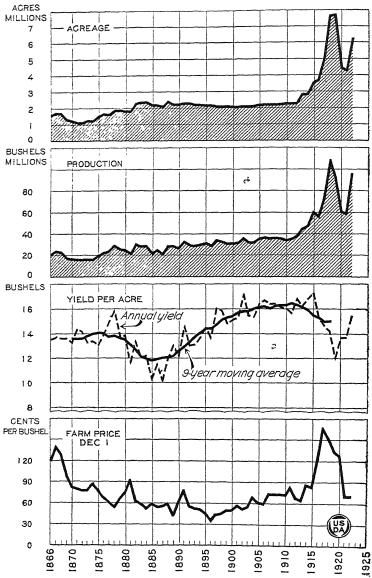


Fig. 28.—Rye acroage decreased for a few years previous to 1872, increased until 1883, then remained fairly steady until 1913, since which time large increases have occurred. Trend of production was upward from 1874 to 1918. Acre yield and farm price show definite upward trends during the 20 years prior to the World War and downward trends since its close.

The production of rye, being the result of both acreage and acre yield, has fluctuated considerably from year to year. A gradual increase was apparent, however, from 1874 to 1911 and a rapid increase from 1912 to 1918. In 1922 the production of 95,497,000 bushels was second only to the record crop of 108,289,000 bushels in 1918.

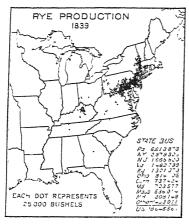
The acre yield of rye has fluctuated more or less from year to year, the lowest being 10.1 bushels in 1888 and the highest 17.3 bushels in 1915.

Historical Development of Rye Production.

Rye was brought from Europe to the American colonies by the early settlers. A description of the Bay settlements (Massachusetts) in 1632 or 1633 notes that rye, as well as oats and barley, was grown, and in 1636 it was reported that about 30 plows were at work and much rye was sown with the plow. Wheat appears in the records in 1640. In the records of the Plymouth Colony rye appears in 1640 for the first time, while wheat first appears in this colony in 1642.

Rye was grown by the Dutch settlers of New Netherlands (New York) as early as 1625. The Swedes began to grow rye soon after settling along the Delaware River in 1638. The records show that in the autumn of 1643 they bought 75 bushels of rye seed at New Amsterdam. Rye also appears in the early records of the settlement in Maryland. The Saltsburger colony in Geórgia early began to grow rye, it is reported, and a mill was established for making flour.

Rye was apparently of greater importance to the New England colonists than to the settlers farther south. Rye flour and corn meal were their main breadstuffs. Wheat did not do well in New England and wheat flour was not available before the development of the wheat industry in western New York. The earliest agricultural census, taken in 1840, shows very little rye production south of the Potomac River, except in the mountainous sections.



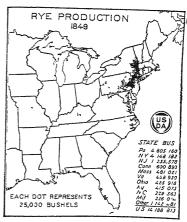
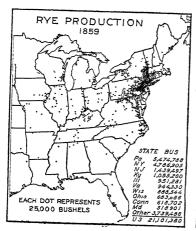


Fig. 29—In 1839 the production of tye centered in a large district covering southeastern New York, northern New Jersey, eastern Pennsylvania, and central Maryland. Virginia and Kentucky also each produced in excess of a million bushels. A beginning had been made beyond the Mississippi River, in Missouri. The total production in the United States was 18,-645,567 bushels. In 1849 the total rye production in the United States was less than in 1839. The center of production had receded from southern Pennsylvania and Maryland. Production had increased in New York but decreases had taken place in the other leading States. Rye growing had extended into Michigan, Wisconsin, and Iowa.



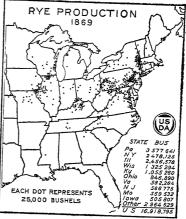


Fig. 30.—The production of rye in 1859 was about 50 per cent greater than in 1849. The center of production remained stationary. Production in Pennsylvania and New York had increased, as had that in Kentucky and several of the Corn Belt States. A considerable increase had taken place in Wisconsin, and a beginning of production had been made in Minnesota, Arkansas, Mississippi, Louisiana, and Texas. Another decrease in rye production was shown to have occurred by 1869. The total production amounted to only 16,918,795 bushels. The decrease was notable in Pennsylvania, New York, and New Jersey, but production had increased materially in Illinois and Wisconsin and to a leaven arterial of the service of the

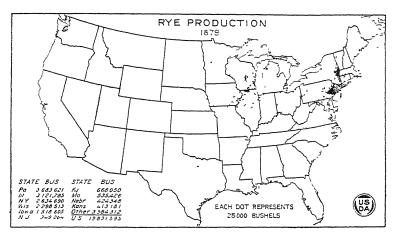


Fig. 31.—In 1879 production had increased somewhat as compared with 1869, but was not yet as large as it had been 20 years earlier. Two widely separated areas of production are apparent. The old center in the East includes parts of New York, Pennsylvania, New Jersey, and Maryland. The new one in the West is located in Wisconsin, Illinois, and Iowa and parts of States adjacent on the west. Production has begun also in several of the far western States.

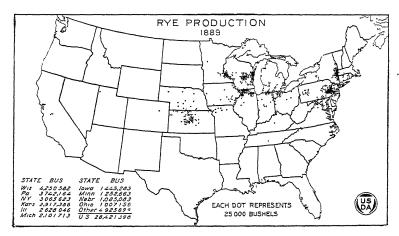


Fig. 32.—In 1889, for the first time in any census year since 1839, Pennsylvania failed to be the leading State in rye production. Wisconsin now led in production, while Pennsylvania had dropped to second place and New York to third. Two new centers of production appear, one in Michigan and adjacent portions of Ohio and Indiana, the other in Kansas and Nebraska. Rye was grown in Kansas because it was winter hardy. The newly introduced hald red winter wheats had not yet crowded out the rye crop.

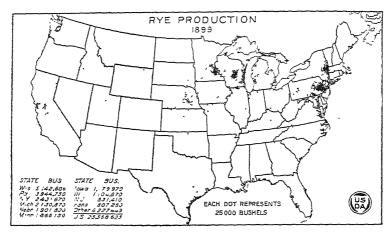


Fig. 33.—In 1899 a decrease in rye production to 25.568.625 bushels had taken place. Wisconsin had increased the lead established 10 years before and now produced more than 5,000,000 bushels. Pennsylvania, New York, and Michigan were still important producers, as were also Nebraska and Minnesota. The production in Kansas had greatly decreased, as the hard red winter wheats were crowding out rye in that State. A beginning of production had been made in North Dakota and a noticeable increase had taken place in South Dakota. In general, the area of production was moving northward

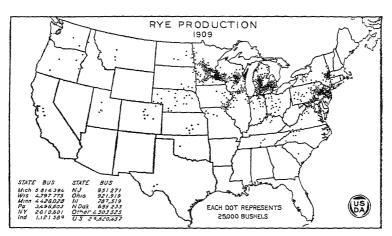


Fig. 34.—In 1909 an intense concentration of production is apparent in Michigan, Wisconsin, and Minnesota. Michigan had become the leading State in rye production. Wisconsin production had decreased slightly. but Minnesota had increased very greatly. Pennsylvania and New York were still important rye-producing States, but the center of production had moved into Michigan and the northern Mississippi Valley. Production in Kansas was very small. The total production of the United States in this year amounted to 29,520.457 bushels.

At the present time rye production is centered largely in the north-central part of the United States. Its production has markedly decreased in the Northeastern States, and it has never gained a strong foothold in the far West.

Factors Influencing Rye Production.

In any consideration of the bread grains rye must be considered along with wheat. From these two grains is made the light bread consumed by the people of the world. Substitutes can be used, up to a certain point, but the basis of

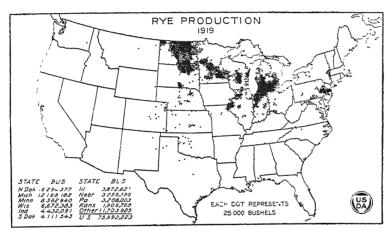


Fig. 35.—The most noticeable shift in rye production that has taken place in any decade since 1839 is revealed by the census figures for 1919. North Dakota has become the most important rye-producing State, the crop of this State alone amounting to more than 16,000,000 bushels. Michigan produced more than 12,000,000 bushels and Minnesota more than 8,000,000 bushels. Production had increased again in Kansas and Nebraska. The total production for the United States was 75,992,223 bushels. Rye now is produced most largely in the sandy and the subhumid parts of the United States.

such mixtures for the production of the light breads must be either wheat or rye flour.

The people of the United States have a decided preference for bread made from wheat flour. This, no doubt, is due in part to the greater palatability of wheat bread, at least according to our standards, and in part to the fact that wheat flour can be worked up more easily and produces more attractive bread, cake, and pastry. As the preference of the American people is not in favor of rye food prod-

ucts, the production of rye is limited, being only about one-tenth that of wheat.

Whenever there is a market demand for rye its production in the United States is largely increased. A marked increase occurred during the war, following an enlarged foreign demand and small crops of wheat and restrictions on the use of wheat in this country. This increased production has persisted to the present year largely on account of maintained foreign demand, the rye crop in 1922 being about double the 1913 crop. This increase in rye sowings is important in its significance as to the place of rye in American agriculture.

From an agricultural point of view there is need for a considerable permanent increase in the production of rye in this country. In many localities rye will give better yields and more food per acre than wheat. In other localities not now growing any bread grain rye will give good yields where wheat would not succeed. There is much sandy land in the southern part of the Cotton Belt that will produce rye successfully, but where climatic and soil conditions make wheat growing unprofitable. In other parts of the country also the rye crop will be more successful than wheat on thin, sandy, and sour soils.

Rye also is hardier than wheat. The rye belt of the United States extends across the country about 300 miles north of the winter-wheat belt (Fig. 35). In the present spring-wheat area of the northern Mississippi Valley winter wheat generally will not survive the winter unless given protection. Rye is the only winter grain hardy enough to withstand these severe conditions. A fall-sown crop is desired, as it distributes labor in both the seeding and harvesting seasons. The rye is largely "stubbled in"—that is, sown in the stubble of other small grain—in the fall and is harvested before the other grains are ready. In the winter-wheat areas generally rye can be sown later than wheat, thus enlarging farm activities.

The risk in growing rye is generally somewhat less than it is with wheat, particularly spring wheat. Rust and hot weather do not affect it so unfavorably and Hessian fly and other insect pests are not so liable to cause damage.

Besides the growing of rye for grain there is a large use of it as winter cover and green manure. Its general adaptability and hardiness make it particularly desirable for this purpose, especially when grown in combination with hardy legumes, like hairy vetch. Much land in the Eastern States is being enriched by use of this combination of cover crops.

Fungous diseases.—The most important disease of rye is ergot. It rarely causes any serious reduction in yield, but is always a menace to live stock because of the poisonous effect of the ergot sclerotia or false kernels. The disease can be controlled by sowing ergot-free seed after some other crop than rye, wheat, or barley and keeping down ergot-bearing grasses in the vicinity of the fields.

Other diseases of rye are stem smut, stem rust, leaf rust, anthracnose, and scab. Table 3 presents the estimated annual losses caused by the most important diseases of rye during five years.

TARLE	${\bf 3\!-\!Estimated}$	annual	loss	of	rye	from	disease,	1917–1931,	in-
clusive.									

Disease.	1917	1918	1919	1920	1921
SmutsStem rustLeaf rust	Bushels. 471,000 471,000	Bushels. 176,000 (1) (1)	Bushels. (1) 31,000 538,000	Bushels. 92, 000 902, 000 25, 000	Bushels. 60,000 98,000 112,000
Ergot	1,115,000	78,000	(1)	214, 000	203,000
Scab	(1)	(1)	39,000	(1)	(1)
Other diseases	628,000	(1)	964,000	173,000	357,000
Total	2, 685, 000		1,572,000	1, 406, 000	830,000

¹ No estimate made

Insects.—Rye is freer from general insect injury than either wheat or barley, although subject to occasional infestation by the Hessian fly and jointworm, and to the inroads of grasshoppers and plant lice.

Milling and Marketing Rye.

Most of the rye produced in the United States, except that used for seed, is sold as grain, only a small part of the crop being fed to live stock on the farms. In recent years the larger part of the crop has been exported. The production in 1919 was 75,483,000 bushels. In the export year ending June 30, 1920, there were exported 41,530,961 bushels. In the year beginning January 1, 1919, 17,693,250 bushels were ground in mills, as reported in the census for that year. The production in 1920 and 1921 was 60,490,000 and 57,918,000 bushels, respectively. In the export years beginning July 1, 1920, and July 1, 1921, the exports were 47,337,466 and 29,903,602 bushels, respectively.

The principal interior rye markets are Duluth, Minneapolis, and Chicago; the principal export markets are New York, Baltimore, Philadelphia, and Galveston. Most of the rye milling is done in Minnesota and Wisconsin, the mills in these States grinding more than half of the rye milled in 1919.

Grades for rye have not been fixed and established by the United States Department of Agriculture, although grades have been recommended and may be put into effect at some future time. Rye has been graded, therefore, in the different markets in accordance with the grades locally in effect. The requirements of these grades have been different in different States or in different markets. It is not possible, for this reason, to compare accurately the quality of rye reaching the several markets.

The moisture content of rye is important in relation to keeping quality, as rye will become musty and go out of condition readily if the moisture content is too high. Foreign material also is important.

Rye Foods, Feeds, and Feeding.

Rye closely resembles wheat in composition and in use, as its protein is of a character that permits the use of yeast in making raised bread. Although rye is not extensively grown in the United States, 17,693,250 bushels were ground in all mills in 1919. This produced 2,575,542 barrels of flour. A bread made of rye and corn meal (Indian meal) was much used in pioneer times and still is made commercially, and also as a home product in some parts of the country. A little attention has been given to the manufacture of breakfast foods from rye.

The by-products known as rye middlings, rye bran, and rye feed are much like the wheat by-products of similar

name. Rye and its by-products generally are fed to hogs. The feeding value is approximately from 85 to 90 per cent of that of corn (Fig. 36).

Considerable difficulty is encountered in feeding rye, because it forms a pasty mass when it is moistened in the process of chewing. As hogs sometimes have difficulty in swallowing ground rye, it should be fed with other grain, such as corn or oats. While there is no particular advantage in its favor, it can be fed satisfactorily to horses, cattle, and sheep. Rye should form not more than one-third of the ration. On account of the small size of the kernel, it should be ground before feeding, especially for pigs. Like corn, it needs to be supplemented by a protein feed. Rye is not nearly as palatable as corn, barley, and oats.

The Situation and Outlook.

The increase of rye production in the United States since 1912 and the persistence of about a doubled production even since the ending of the war are due in great part to the enlarged foreign demand. European importing countries, shut off from their usual sources of supply in central and eastern Europe, have furnished a market for our increased surplus. The price in comparison with wheat usually has been more attractive to them, which has aided in maintaining the demand. With the resumption of normal agricultural practices and the stabilizing of trade in Europe it is probable that much of our foreign market for rye will disappear. This will result in lower prices in this country, thereby making the crop less attractive to the farmer.

RYE AND CORN FOR FATTENING HOGS.

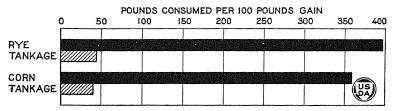


Fig. 36.—This graph is based on the results of an experiment in feeding rye at the Ohio Agricultural Experiment Station, as published in Bulletin 268. Shotes averaging about 70 pounds were fed for 112 days. While the two lots of pigs were not handled in the same way previous to the experiment, the results checked very closely with extensive experiments carried on in Denmark.

With plentiful supplies of wheat, the consumption of rye products is not likely to be largely increased in this country. Our own present domestic use of rye can support only a fraction of our present production. Rye grain is not specially desirable as a feed for live stock, although some of it is fed. It is possible, therefore, that the acreage sown to rye will decrease within the next few years. Some of it is now supported largely by the sale of straw, which is valued for special uses in packing and manufactures.

From an agricultural standpoint it is unfortunate that conditions are not more favorable to the rye crop. There is much land on which it can be grown to advantage, in fact to better advantage than wheat. A dependable market for an enlarged production would assist in establishing a system of agriculture that would utilize our natural resources to better advantage and enlarge the quantity of foodstuffs that we can produce.

Rice.

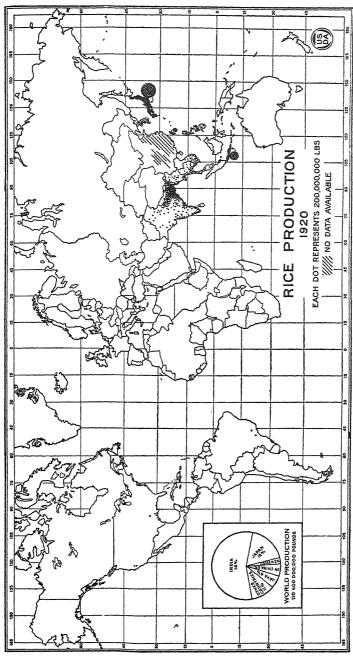
Importance of the Rice Crop.

Among the food grains of the world rice holds a very important place. It forms a large portion of the diet of the people living in the coastal sections of many countries of the Orient, especially in tropical and warm temperate climates. In the United States rice is comparatively unimportant (see Fig. 1) among the cereal crops grown and also in the national diet.

On portions of the Coastal Plain of the South Atlantic and Gulf States rice is the most important grain crop grown. It is important in these areas because it can be more profitably grown on these low lands than any other crop for which there is a market in the United States. In southwestern Louisiana and southeastern Texas rice is almost the only source of income. In some of the parishes and counties in this district over 75 per cent of the cultivated land is used for rice growing.

World Production of Rice.

Rice is cultivated in all tropical countries, but the greater part of the world crop is grown in eastern and southeastern Asia (Fig. 37), including the larger near-by islands, espe-



16. 37.—Most of the rice crop is grown in the tropical and subtropical countries of the Eastern Hemisphere. The greatest centers of production are in eastern and southeastern Asia and near-by islands, especially Japan and Java. India alone produces over half of the rice of the world, excluding China. The United States has contributed about 1 per cent of the world production since 1918, Fig. 37.-Most of the rice crop is grown in the tropical and subtropical countries of the Eastern Hemisphere.

cially Japan and Java. The principal producing countries are India, Japan, and China, but statistics for China are not obtainable. Large quantities are produced also in Java, Indo-China, Siam, and Korea (Chosen). These seven countries produced about 90 per cent of the world crop in 1920. Outside of Asia, the principal warm-temperate areas of production are in the United States, Spain, Italy, and Egypt. Of these four, the United States produces the most, having contributed about 1 per cent of the world production in the last three or four years.

The average annual production of rice in the world, excluding China, in the 22-year period from 1900 to 1921, inclusive, has been approximately 108 billion pounds, or 54 million tons, of cleaned rice. In 1901 the production was as low as 94 billion pounds and in 1909 as high as 127 billion pounds. British India produced from about three-fifths to two-thirds of the rice of the world, excluding China, in this period, the extremes since 1900 being 57 per cent in 1918 and 72 per cent in 1902.

During the period from 1900 to 1921 the annual production of British India was approximately 70 billion pounds, or 35 million tons of cleaned rice. The Japanese Empire ranks second, having produced in the last 22 years about 20 per cent of the world's production, excluding China, and has had since 1904 an average annual production of 20 billion pounds of cleaned rice. Java (including the adjacent island of Madura), which ranks third, usually produces annually from 7 to 8 billion pounds. French Indo-China and Siam, ranking fourth and fifth, respectively, in production, supply large quantities of rice for the world trade. Many of the other rice-producing countries within the Tropics depend upon outside sources for the full supply of their needs.

Trend and Historical Development of Rice Production.

The annual production of rice in the United States has increased in the last 100 years from about 60 million pounds of cleaned rice to more than 1 billion pounds.

Rice production began in the South Carolina colony as a result of an experimental sowing of rice in the Governor's garden in Charleston in 1694. During the colonial period

of our history the population was too small to consume much of the crop. There was, however, a ready market for it in England, to which country the greater part of the crop was exported. As early as 1712 over 3 million pounds of cleaned rice were shipped abroad. This export trade increased in volume until the Revolutionary War, reaching a total of 76 million pounds of cleaned rice in 1770. The foreign trade, which again increased after the Revolutionary War, began to decline in 1794 as the domestic use of the crop increased.

In 1839 about 90 per cent of the rice was grown on tidal lands of South Carolina, North Carolina, and Georgia. South Carolina produced over 70 per cent of the crop, while Louisiana contributed less than 4 per cent of the production. By 1849 the total production was greatly increased. South Carolina, North Carolina, and Georgia still led in production, though there was a marked increase in Mississippi, Alabama, and Florida. The striking feature is the great increase in production in the areas already used for rice culture. As late as 1859 South Carolina, North Carolina, and Georgia produced 90 per cent and South Carolina alone produced over 60 per cent of the crop.

The production of rice in the South Atlantic States was greatly affected by the Civil War. On account of the destruction of property and the scarcity of money and labor, only a small part of the old plantations could be cultivated. In these States the growing of rice became less profitable each year because of the lack of funds to finance the new plantation management which had become necessary by the changed labor conditions.

In part because less labor was required for rice than for sugar cane, the rice acreage along the Mississippi River in Louisiana began to increase rapidly after the Civil War. The crop did not become important in Louisiana, however, until it was definitely determined in 1887 that rice could be grown profitably on the prairies in the southwestern part of the State. These tracts of land were level and broken here and there by sluggish streams from which irrigation water could be obtained. The irrigation companies that soon were organized to sell and distribute this water gave such an impetus to the growing of rice in this region that

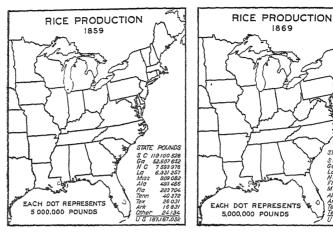


Fig. 38.—The principal producing areas in 1859 were in the tidal sections of South Carolina, Georgia, and North Carolina. The maximum production of Georgia was reached about this time. Outside these three States production had decreased everywhere except in Louisiana. The production of rice in the decade from 1860 to 1869 was greatly affected by the Civil War. On account of the destruction of property and the scarcity of money and labor, only a small part of the old plantations could be cultivated. In 1869 rice production was less than in 1839.

STATE POUNDS

Ala Ark Tex

32,304,825 22,277,380 /5,8540/2 2059,28/

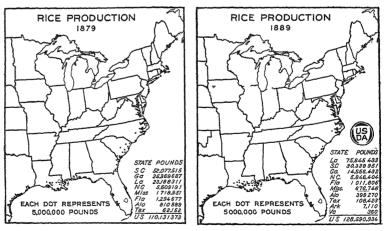


Fig. 39.—While production in 1879 was 50 per cent greater than in 1869, the rice crop was becoming less profitable because of the lack of funds to finance the new plantation management, which had become necessary by the changed labor conditions resulting from the Civil War. Production was just beginning on the prairies of Louisiana. The map for 1889 shows the first great shift in rice production. The extension of a railroad into southwestern Louisiana opened to settlement a vast area of level prairie land, which was abundantly supplied with fresh water and well suited to rice culture. Louisiana had become the leading rice-growing State, producing about 60 per cent of the total crop, while production in South Carolina was beginning to decline.

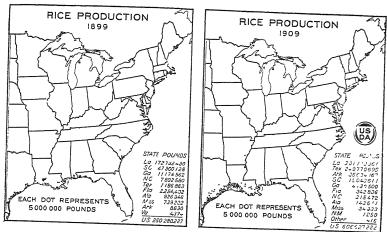


Fig 40.—The coastal prairie of southwestern Louisiana and southeastern Texas became the center of rice production in the decade from 1890 to 1899. In 1899 about 70 per cent of the rice was produced in Louisiana Production in South Carolina had increased again. By 1909 production had increased greatly in the praule rice districts of Louisiana and Texas In that year these two States produced about 90 per cent of the rice grown in the United States. Arkansas had become a rice-producing State, while production in South Carolina had notably declined

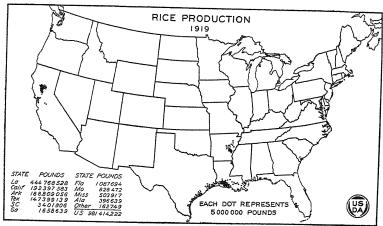


Fig. 41.—The center of rice production in 1919 remains in Louisiana and Texas, but Arkansas has greatly increased its acreage and production. Rice growing became an important industry in the Sacramento Valley of Cahfornia during the decade from 1910 to 1919. Commercial production began in 1912, and in 1919 California ranked second in production. The production in South Carolina has almost vanished.

in 1889 Louisiana became the leading rice-producing State, which rank it still holds. The successful outcome of this agricultural venture led to the development of similar lands for rice culture in southeastern Texas and eastern Arkansas.

The first commercial crop of rice was grown in California in 1912, principally in the vicinity of Biggs, in Butte County. The greater part of the present acreage is on low land that lies within the counties of Colusa, Glenn, and Butte, and is irrigated mainly from the Sacramento and Feather Rivers. In 1922 California ranked fourth in rice acreage and second in production.

Maps showing the shifts in production by decades from 1859 to 1919 are presented as Figures 38 to 41, inclusive, with the necessary discussion.

Natural Factors Influencing Production.

The principal physical factors affecting rice production are irrigation water, precipitation, temperature, and soil, and of these irrigation water is the most important.

Irrigation water.—The rice crop is dependent upon an abundant supply of fresh water, for irrigation means the submergence of the land upon which the crop is grown. A depth of approximately 6 inches of water must be maintained throughout a period of at least 75 days. Water, therefore, is required in large quantities and must be available at all times during the growing season to insure maximum production.

Precipitation and temperature.—The expansion of the rice area is limited by rainfall and temperature. The crop requires a relatively high humidity and a mean temperature above 70° F. during a growing season of 4 to 6 months. A precipitation between 50 and 60 inches well distributed throughout the year within the rice area and upon the watershed of its streams is an important factor in rice production, as the amount of the available irrigation water is dependent upon it. In Louisiana the rainfall during the growing season furnishes about 20 acre-inches and the remaining 28 inches of the 4 acre-feet of irrigation water usually considered necessary are obtained by pumping.

Soil.—Rice is most productive on soils that are medium to rather heavy in texture. These types of soils, however, to be useful for rice production must lie in level tracts and be underlain by a subsoil that is impervious to water. These conditions are necessary to hold the irrigation water within the levees at the required depth.

Diseases of rice.—Two of the most important diseases of rice in the Southern States are "straighthead" and "rottenneck." Straighthead is a nonparasitic disease caused by the lack of sufficient aeration of the root systems of rice plants growing in soils filled with certain types of organic matter. These plants fail to develop the normal root system. The disease can be controlled by a simple change in the methods of irrigation.

Rotten-neck is a fungous disease which is more prevalent and probably more destructive than straighthead. No satisfactory methods of control are known yet. Seedling blight and stem rot are sclerotial diseases of rice of considerable importance.

Insects.—The principal insect enemies of the growing rice crop are the rice water-weevil (Lissorhoptrus simplex Say), the immature stages of which feed on the roots; the stink bug (Oebalus pugnax Fab.), which sucks the juice from the growing kernels; the rice stalk-borer (Chilo plejadellus Zincken), the larva of which tunnels and kills the stem; and the southern grass worm (Laphygma frugiperda S. & A.), which eats the leaves.

Milling and Marketing of Rice.

Rice, like the other small grains, is sown with a grain drill, cut with a self-binder, and thrashed with a grain separator. It is thrashed from the shocks and put in burlap sacks at the separator. The sacks used in the prairie rice districts of the South hold approximately 200 pounds of paddy or rough rice, while those used in California hold about 100 pounds.

Thrashed rice still is inclosed in the hull or chaff. It is known as paddy or rough rice, and in this condition is sold to the rice mills, either through a cooperative selling association or to buyers representing the mills. Most of the mills are located in the centers of rice production, but some of them are outside of the rice area. In the mills rice is prepared for the market by removing the hulls and the bran and by polishing the kernels, which sometimes also are coated with glucose and talc. The unbroken kernels of milled or cleaned rice are known as head rice. This always commands the highest price. The December mean wholesale price of cleaned rice of the Honduras variety at New Orleans and the December 1 average farm price of paddy or rough rice of all varieties in the United States for the years 1904 to 1922, inclusive, are shown in Figure 42.

WHOLESALE PRICE OF CLEANED RICE AND FARM PRICE OF PADDY.

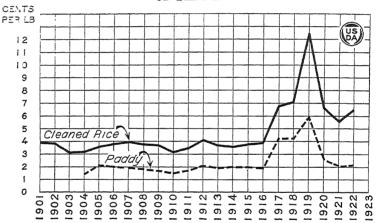


Fig. 42.—The trend of the December mean wholesale price of Fancy grade cleaned Honduras rice from 1901 to 1922 is compared with the average December 1 farm price of paddy of all varieties grown in the United States from 1904 to 1922. In general, the spread in price is fairly uniform except in 1920. Honduras always sells above other varieties of rice, and hence the spread shown is greater than that between paddy and cleaned rice of other varieties.

The marketing of milled or cleaned rice is greatly facilitated at present by the grades proposed in 1920 but not yet established under the United States grain standards act. These grades are known as extra fancy, fancy, choice, medium, and sample grade, and are applied to each of three types of rice grown in the United States, namely, long, short, and round kernels. They are based mainly on color and on percentage of whole kernels (head rice), foreign ma-

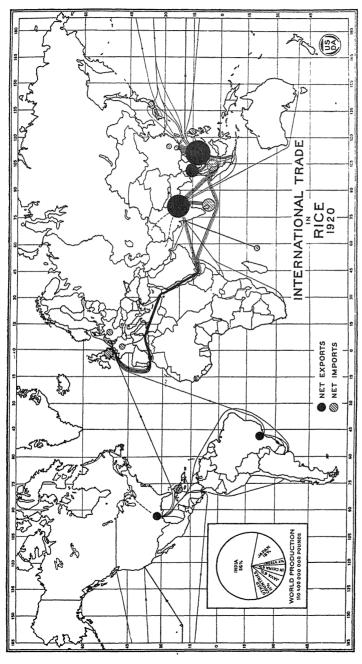


Fig. 48.—The international trade in rice is mainly among the large rice-producing and rice-consumung countries of the Orient.

These countries also export large quantities of rice to Burope and the Western Hemisphere. Among the nonproducing countries Great Britain is the largest purchaser. The United States sells rice to Burope, the West Indies, the Central and South American countries, and, since 1921, to Japan.

terial. and moisture. The milled, cleaned, or table rice gets into the general trade through brokers and jobbers.

International Trade in Rice.

The greater part of the world's exports of rice are supplied by French Indo-China, British India, and Siam (Fig. 43). During the seven-year period 1914 to 1920 British India contributed an average annual net export of 3.5 billion pounds of cleaned rice, French Indo-China 2.75 billion pounds, and Siam 1.9 billion pounds.

Burma, the chief rice-producing Province of India, and Siam supply Europe and the Western Hemisphere with rice of special qualities. Much of the highly milled and polished rice that is produced in the European mills is obtained from these countries. Siam and Indo-China furnish very largely the cheap rice that is needed to feed the native population of the greater part of the Orient, except India.

The principal nonproducing country which imports rice is Great Britain. A group of countries which in pre-war years had lower import requirements includes France, Holland, Germany, Russia, and Cuba. Among the principal rice-producing countries, exclusive of China, the Dutch East Indies ranks first in the imports of rice. Japan, ranking second in production, also imports large quantities of rice to feed a population having the largest per capita consumption of rice in the world.

As early as 1712 the South Carolina colony exported 3 million pounds of cleaned rice. This trade increased in varying quantities (Fig. 44) until 1859, when 81 million pounds were exported. No large permanent increase occurred until 1885. In 1884 the exports were only 168,827 pounds. The average exports for the five-year periods from 1886 to 1920 increased from 482,432 pounds for the period 1886–1890 to 454,000,000 pounds for the period 1916–1920, reaching the maximum annual export of 738,000,000 pounds in 1921. The average annual exports for the 10 years preceding the World War were 129 million pounds of cleaned rice, of which over 80 per cent went to Porto Rico. Of the total export of 738 million pounds in 1921, Porto Rico, Hawaii,

and Alaska received only about 28 per cent, the greater part going to Europe. Japan purchased as much as 56 million pounds.

Rice was imported into the United States for the first time in 1861, when 52 million pounds were brought in. Imports increased thereafter in greatly varying quantities

AVERAGE RICE PRODUCTION, CONSUMPTION, EXPORTS AND IMPORTS, UNITED STATES, BY 5-YEAR PERIODS, 1821-1921.

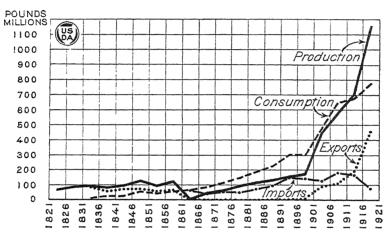


Fig. 44.—The average production of cleaned rice for five-year periods has increased steadily since 1821, except during the Civil War. Consumption exceeded production from 1861 to 1914, except in 1904 and 1911. During and since the World War production of rice has greatly increased, averaging now over one billion pounds annually. Exports also have greatly increased, reaching the maximum of 738 million pounds in 1921.

until the maximum import of 236 million pounds occurred in 1913. After that year there was a constant decline to 1921, when the imports amounted to less than 13 million pounds. In the early years imports were largely for domestic consumption. In recent years they have included the highly milled rice from Europe and also brown rice from the Orient to be milled here and reexported.

· Rice Foods, Feeds, and Feeding.

Rice, like wheat, is used almost entirely for human food. It has a higher carbohydrate content and less fat than wheat. Its most common use is as a starchy food to accompany meats and similar dishes. It is used also for puddings, for 35143°—YBK 1922—34*

thickening soups, and in many other ways, commercially and in the home. Puffed rice and boiled rice are common breakfast foods. The kernel also can be popped. Whole or brown rice contains a higher percentage of vitamin and mineral matter than ordinary highly polished rice.

The by-products are important feeding stuffs in Louisiana, Texas, Arkansas, and California, where most of the rice crop is raised. These by-products are rice hulls, rice bran, and rice polish. The hulls have practically no feeding value, but the other two by-products are very nutritious. Owing, however, to the high fat content they easily become rancid and so do not keep or ship well. The bran to be of good quality should contain only a very small percentage of hulls.

RICE BY-PRODUCTS AND CORN FOR FATTENING HOGS.

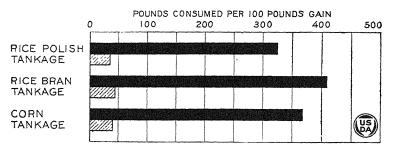


Fig. 45—This graph is based on the results of three experiments in feeding lice by-products at the Arkansas Agricultural Experiment Station, as published in Bulletin 128 of that station. In the first experiment three lots, each containing 6 shotes, averaging 136 pounds each, were fed for 75 days. In the second experiment three lots of 6 shotes, averaging 85 pounds each, were fed for 82 days. In the third trial three lots of 5 shotes, averaging 75 pounds each, were fed for 84 days. In all three experiments the pigs required fewer pounds of rice polish than of corn to make 100 pounds of gain. In another experiment, without any protein supplement, fewer pounds of rice bran than of corn were required to produce 100 pounds of gain.

Rice seldom is used for live stock in the form in which it is harvested, unless there is a surplus or damaged crop. The rough rice or paddy is a fairly good feed for fattening cattle. However, on account of its hard fibrous hull, rolling or crushing greatly improves its value for live-stock feed.

Rice polish and rice bran are very good feeds for fattening hogs when used with a protein supplement (Fig. 45). Rice polish is probably the most satisfactory rice by-product for feeding hogs. Both rice polish and bran are suitable cattle

feeds, but are not used to any extent in feeding horses and sheep. They are used chiefly in the districts where rice is produced.

Grain Sorghums.

The grain sorghums comprise several groups, each having a different name and each containing several varieties. The different groups are closely related botanically, and are similar in general appearance and in culture and use. The principal groups are kafir, milo, and durra, the latter including feterita.

Importance of the Crop.

In comparison with most of the principal cereal crops and some other widely grown crops of the United States (Fig. 1) the grain sorghums are not very important. These crops are of tremendous importance, however, in the southern section of the Great Plains area, comprising portions of Kansas, Oklahoma, Texas, and New Mexico (Figs. 46-47). In fact it scarcely would have been possible to develop farming enterprises in much of that territory without them. In this section they take the place occupied by corn in the more humid sections of the country. They are the tilled grain crop in the rotation, and they provide the feed grain and roughage for farm and range live stock and silage for the dairy and the beef industries. Because of insufficient rainfall and drying winds it is not possible to grow corn in this territory to supply these needs.

World Production of Grain Sorghums.

There are three great centers of sorghum production in the Old World, namely, Africa, India, and Manchuria-China, with a smaller center in western Asia, including Turkestan, Mesopotamia, Syria, and parts of Asia Minor.

In much of Africa varieties of grain sorghums are the staple cereal crops of large numbers of the native population and have been so from time immemorial. The number and diversity of varieties is known to be enormous. The kafir varieties came from Natal, while our feterita came from the Egyptian Sudan. Our white durra and brown

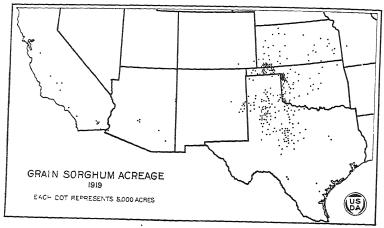


Fig. 46—Grain sorghums are grown only in the Southwestern States, principally in Kansas, Oklahoma, and Texas. Compare with Figure 47, which shows corn acreage in the same States in 1919. The grain sorghums are grown mostly where climatic conditions are too hot and dry for corn.

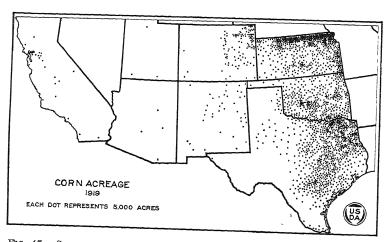


Fig. 47.—Corn acreage in the Southwestern States is confined mostly to the subhumid portions of Kansas, Oklahoma, and Texas. The growing season in northwestern Kansas and northeastern Colorado is too short and cool for the grain sorghums, but corn succeeds fairly well.

durra are found in Morocco, Algeria, and Tunis, while varieties which probably are the original forms of our yellow mile and white mile are found in Egypt.

In India the grain sorghums are of tremendous importance in the drier portions of the interior not suitable for wheat growing. The principal centers of production are in the Bombay and Madras Presidencies and in Hyderabad. The area grown annually is more than 25,000,000 acres. The grain serves for human food and animal feed, and the stalk is utilized for fodder. The crop is known as jowar or juar.

In Manchuria and China is grown an entirely different group of sorghums known as kaoliang. In these countries they are important articles of human diet, as well as feeds for live stock and poultry. With the characteristic thrift of the Chinese and related peoples, every portion of the plant is used in some way.

Occasionally shiploads of kaoliang grain are received at Pacific coast ports of this country, where they enter trade as feed for poultry and stock. Still more rarely occasional shiploads of kaoliang, or of jowar from India, arrive at our Atlantic ports, where they find a similar use. Probably most of these cargoes are brought in largely as ballast rather than as regular freight.

Historical Development of Production in the United States.

Different varieties of grain sorghums were introduced at intervals from early colonial times, but none persisted in cultivation. Of the varieties now grown in this country, the earliest arrivals were the white durra and brown durra, which were introduced from Mediterranean Africa to California in 1874 and still are grown there sparingly under the name of "Egyptian corn." About 1879 the white variety appeared in Kansas under the name "Jerusalem corn," but whether from California or direct from Syria is not known. At about the same time there was grown sparingly in Kansas a similar variety known as "rice corn," which probably was the present white milo.

In 1876 the Centennial Exposition was held in Philadelphia. The exhibit of the Orange River Colony of South Africa contained the seeds of two varieties of kafirs, a group of grain sorghums grown by the Kafir tribes in Natal. A thimbleful of this seed reached the State commissioner of agriculture in Georgia in 1877 and by him was sent to Dr. J. H. Watkins, of Palmetto, Ga. He grew and selected the plants until 1885, when he distributed some seed. In 1886 larger quantities were distributed by him and through the Georgia State Commissioner of Agriculture and the United States Commissioner of Agriculture. The crop became established in Kansas in about 1888.

About 1885 the sorghum now known as yellow milo was brought to notice in South Carolina or Georgia and in 1887 it was widely advertised. It soon became established in the drier parts of Texas.

No complete annual statistics on grain sorghums in the United States are available until 1915, though census data were obtained in 1909. Kansas reported 47,000 acres of kafir in 1893, and three-fourths of a million acres of all grain sorghums 10 years later in 1902. No further increase took place until 1911, when over 1 million acres were grown in Kansas. Oklahoma reached the million-acre basis not long afterwards.

The trend of acreage, acre yield, production, and farm price for bushel for the eight years from 1915 to 1922, inclusive, is shown in Table 4 with the data for 1909 for comparison. The grain-sorghum crop is holding its own with an average of about 5 million acres annually.

During the last three years the three important producing States in order of acreage are: Texas, with nearly 2 million acres; Oklahoma, with 1\frac{1}{3} million acres; and Kansas, with 1 million acres. The fourth State, Colorado, grows about 250,000 acres annually, and the other States, in descending order, are New Mexico and California with an average of about 140,000 acres, and Arizona, Nebraska, Missouri, and Iowa with from 30,000 down to less than 10,000 acres annually.

The distribution of acreage of grain sorghums in eight of these States in 1919 is shown in Figure 46. The distribution of corn acreage in the same States, except Missouri, is shown in Figure 47.

Table 4.—Annual and average acreage, acre yield, production, bushel value, and total value of the sorghum grain grown in Arizona, California, Colorado, Iowa, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, and Texas in 1909 and in the eight years from 1915 to 1922, inclusive.

				Value.	
Year.	Acreage	Acre y ield	Production.	Per bushel	Total
		Bushels	Bushels	C: nts	
1909	1,631,000	10.7	17, 526, 000	60.2	\$10,766,000
1915	4, 153, 000	27.6	114, 160, 000	44.7	51, 157, 000
1916	3,944,000	13.7	53, 858, 000	105.9	57,027,000
1917	5, 153, 000	11.9	61, 409, 000	161.9	99, 433, 000
1918	6,036,000	12.1	73, 241, 000	150.0	109, 881, 000
1919	5,060,000	25.8	130, 734, 000	127. 4	166, 510, 000
1920	5, 120, 000	26.8	137, 108, 000	92.9	127, 629, 000
1921	4,635,000	24.6	113,990,000	39.1	44, 575, 000
1922	5,051,000	17.9	90, 381, 000	87.6	79, 389, 000
8-year average, 1915–1922	4, 894, 000	20.1	96, 935, 000	101. 2	91, 950, 000
6-year average, 1915-1920	4,911,000	19.7	95, 185, 000	113.8	101, 940, 000
2-year average, 1921-1922	4,843,000	21.3	102, 186, 000	63.4	61, 982, 000

Factors Affecting Production.

The chief factors affecting the production of the grain sorghums are climatic, namely, moisture and temperature. These crops can be grown successfully under a lower effective rainfall than is required by corn, but require higher temperatures for both germination and satisfactory growth. These facts serve to show why the grain sorghums are dominant crops in the area they occupy (Fig. 46).

To the east of this area humidity increases and corn holds its own against the grain sorghums, even if the yield of corn is somewhat below that which the grain sorghums will produce under those conditions. This is true partly because corn is a more efficient feeding grain and partly because it is more easily harvested and more safely stored and transported. Corn is easily husked either from the row or shock.

Corn can be stored in bins immediately on gathering without particular danger of injury except from rats and mice. Heads of the grain sorghums, on the other hand, must be dried or cured in the open before they can be binned in quantity, and even then the bins should be well ventilated. Shelled corn also can be stored safely unless the moisture content is too high, whereas shelled sorghum grain, unless clean from dirt and cracked kernels, must be carefully watched to prevent heating.

To the north and west of the present producing area are large areas of dry land where deficient moisture prevents profitable production of corn, but where increasing elevation and increasing latitude, or both, shorten the growing season so that grain sorghums will not mature satisfactorily. They are much more sensitive than corn to low temperatures in soil and air during germination and early growth.

Fungous diseases.—The only important diseases of grain sorghums are the smuts, of which there are three different kinds. The most widely distributed and most destructive is the covered kernel smut. The loose kernel smut is sporadic in occurrence and causes little damage. These two smuts can be controlled through seed treatment and the use of resistant varieties. Head smut is less widely distributed but may cause heavy local damage. This smut can not be controlled by seed treatment. The varieties of milo do not become smutted under field conditions.

Insects.—The principal insect enemy of the grain sorghums in the Southwest undoubtedly is the sorghum midge. This pest affects the production of the grain only, but doubtless is the limiting factor in the production of sorghum seed in parts of Texas and other important sorghum States. Two species of stalk borers are of very considerable importance to the production of the sorghums throughout the Gulf and Southwestern States. One of these causes injury up to altitudes in excess of 4,000 feet.

Marketing Grain Sorghums.

The grain sorghums are grown primarily for feeding grains and fodders for farm use. Estimates show that only about 25 per cent of the crop moves off the farms where grown. Not all of this reaches the terminal markets, as much of that sold off the farm is consumed locally. The main terminal markets for the grain sorghums are Kansas

City to the north, St. Louis and Memphis to the east. Fort Worth and Galveston to the south, and Los Angeles to the west of the main producing area. The Kansas City market is the largest handler of the grain sorghums.

The chief commercial uses of sorghum grain are similar to those of corn, and it must compete with that grain. This means that sorghum grain moving north and east into cornproducing territory must be either cheaper or better than corn for the purpose desired. If cheaper, it must be sufficiently cheaper to pay for the longer haul and to overcome the handicap of lower feeding value, which is about 80 to 90 per cent of that of corn. Occasionally this condition occurs. Under these conditions also some sorghum grain may be used in the manufacture of industrial alcohol. For poultry feeds the grain of various sorghums is more suitable than corn in size. A considerable portion of the commercial movement both east and west is for this purpose. In the far West, however, little corn is produced, and some of the western commercial movement of grain sorghums doubtless is for use in stock feeding.

Classes.—Under the United States grain standards act classes and grades have been established for grain sorghums. The nine commercial classes are as follows: (1) Kafir, (2) milo, (3) durra, (4) feterita, (5) darso, (6) freed sorgo, (7) brown kaoliang, (8) schrock kafir, and (9) shallu. Any class containing more than 10 per cent of another is designated "mixed grain sorghum." Only the first four of the nine classes are important, as production of the other five is very limited. Kafir and milo comprise more than 90 per cent of the total sorghum grain graded at the principal markets. Three classes, kafir, milo, and durra, are divided into two subclasses on the basis of color of kernels. These grades are not enforced under the grain standards act, but they have been adopted by all important grainsorghum markets and used during the last crop year.

Quality.— Because of the very dry conditions under which this grain is produced, the seeds crack easily in thrashing. Unless this cracked material is screened or fanned out, there is danger that the grain will heat when binned on the farm or in elevators and mills. The small size of the kernels allows them to pack tightly together and when they are mixed with the still finer cracked material they form an almost air-tight mass which heats readily. More than ordinary care must be taken, therefore, to ventilate storage bins or to move the grain at intervals.

Grade.—Grade depends upon quality at time of inspection. Each class or subclass is divided into four grades, Nos. 1, 2, 3, and 4, with a "sample grade" for grain failing to meet the specifications of any of the numbered grades. Sufficient data are not available to show the percentage of sorghum grain in interstate movement which falls into each of these grades.

Grain Sorghums for Food and Feeding.

The grain sorghums are a comparatively new crop in the United States. They resemble corn in composition and have similar uses in cookery. They also have a characteristic flavor. Griddle cakes and hot breads resembling corn bread are well known in home cooking, and a breakfast food is manufactured. The kernels of some of them can be popped, the product resembling pop corn in miniature.

Grain sorghums are used mostly as a feed for farm animals on the farms where grown. They also are regarded as an essential ingredient of scratch feeds for poultry. A survey made some years ago showed that about one-fourth of

KAFIR, MILO, AND CORN FOR FATTENING HOGS.

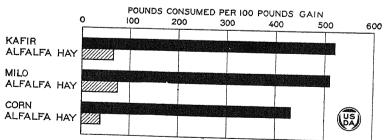


Fig. 48.—This graph represents the results of experiments in feeding kafir, milo, and corn conducted by the Kansas Agricultural Experimental Station, as published in Bulletin 198. Ten shotes in each lot, averaging 124 pounds each, were fed for 80 days. It required about 20 per cent more kafir or milo than corn to produce 100 pounds of gain. Both the corn and the grain sorghums were ground. Other experiments at the same station showed that a feed rich in protein should be fed with the grain sorghums.

the manufactured poultry foods consisted of sorghum grains. The attention of manufacturers of alcohol and starch also is being turned to these grains. Feterita and milo, with large seeds averaging 65 per cent of starch, seem to be especially suitable as raw material for the manufacture of high-grade starch by the commercial process.

The grain sorghums are becoming very important for live-stock feeding in the Southwest, where the climate is too dr, for corn. They have a feeding value about 80 to 90 per cent of that of corn (Fig. 48). They are suitable for feeding all kinds of live stock. For sheep they should be ground, but otherwise they should be fed about the same as corn. They may not produce quite as high a finish as corn. They need to be supplemented by a protein concentrate or legume roughage just as corn does. They are not shipped extensively, except as poultry feed. Thus far no considerable quantity of by-products results from the commercial use of grain sorghums.

Seed Flax.

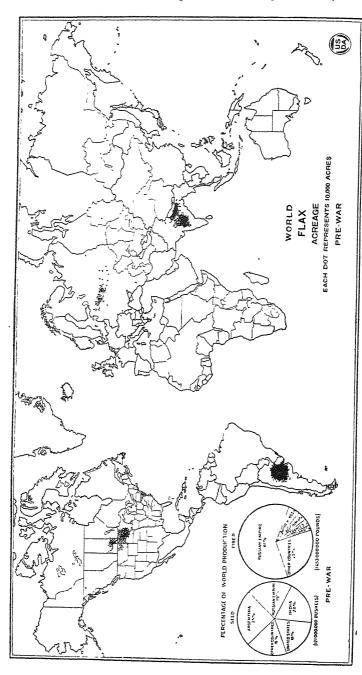
Importance of the Crop.

Among the grain crops of the United States seed flax ranks seventh in acreage and eighth in value, being exceeded by corn, wheat, oats, barley, rye, and grain sorghums in acreage and by these crops and rice in value. (Fig. 1.) The area harvested in 1919 was 1,260,000 acres, while that of 1922 was estimated at 1,308,000 acres, with a production of 12,238,000 bushels.

The seed-flax crop of the United States is grown in the same region as the hard red spring wheats. The four States of North Dakota, Minnesota, South Dakota, and Montana produce 95 per cent of the total crop. In these States flax is important as a cash crop, and also as one that can be sown late in the spring on newly broken sod or on land previously too wet to work.

World Production and Trade.

At the beginning of this century Argentina and Canada were just becoming important flax producers. The United States was then approaching its maximum production, which



North America, Argentina, Russia, and India. In pre-war production of seed flax the five leading countries in order were Argentina, India, the Russian Empire, the United States, and Canada. The maximum world production of flaxseed was reached Four centers of flax culture are to he noted-central in 1912 and 1913, according to available statistics, when over 180 million bushels were produced each year. Fig. 49, --- Pre-war flax acreage of the world and chief producing countries.

occurred in 1902, since which time a steady decline in production has taken place. In Argentina and Canada, our principal competitors, production continued to increase rapidly until 1912 or 1913. Since those years production in Canada has diminished while that in Argentina has remained about stationary. In recent years production of flaxseed in the United States has diminished to about 10,000,000 bushels annually, while consumption continues at 25,000,000 bushels or more. The difference is made up by imports of flaxseed chiefly from Argentina and Canada.

Previous to the World War the principal countries producing seed flax were Argentina, India, Russia, the United States, and Canada, in the order named. The average world production for the five-year period, from 1909 to 1913. inclusive, was estimated at about 110,000,000 bushels annually. In the last three years of this period production had increased until the average production was 121,000,000 bushels, as shown in Figure 49. The bulk of the crop of Argentina, India, and Canada was shipped to Europe or to the United States, where the linseed oil was manufactured and consumed. The Russian crop was used wholly in Europe. Since the war Russia has not produced flax for export. Argentina is by far the largest producer, and, as her domestic requirements are small, she also is the largest exporter.

Western Europe and the United States, with intensive paint, varnish, and linoleum industries, are the chief importers of flaxseed. There is also a large demand from the dairy industries in these countries for linseed cake and meal as a feeding concentrate.

Trend of Acreage, Production, and Price in the United States.

Previous to the Civil War the production of flaxseed was scarcely more than a half million bushels annually. With the settlement of the western prairies acreage and production increased rapidly. Both reached their maximum in 1902 (Fig. 50) when over 29 million bushels were raised on 3,740,000 acres. Since 1902 acreage and production have gradually declined, as has also acre yield since 1905.

Exports and imports.—In Figure 51 are shown production and consumption and net exports and imports of the

FLAX: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1889, 1899, AND 1902-1922.

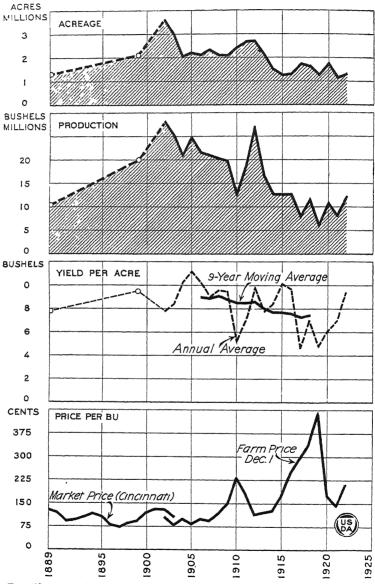


Fig. 50.—Annual acreage, production, and yield per acre in 1889 and 1899 are shown. The general trends of annual acreage and production, and annual and 9-year moving average acre yield have been downward since 1902. The trend of annual average farm price per bushel on December 1 since 1907 has been upward and reached a very high figure in 1919.

FLAXSEED PRODUCTION, NET IMPORTS, NET EXPORTS. AND TOTAL CONSUMPTION IN THE UNITED STATES. 1899-1921.



Fig. 51.—The production of flaxseed in the United States exceeded consumption from 1899 to 1908, except in 1904, and the surplus was exported to Europe. Since 1909 production has decreased notably, while consumption (including seed and carryover) has remained about stationary, and the difference is made up by imports which in recent years have come chiefly from Argentina and Canada. The large production of 1912 was due to an increased acreage, with a high average vield. 9.8 bushels. The imports of

United States from 1899 to 1921, inclusive, with production for 1922. Until 1908 we produced, on the average, more than we consumed and therefore were able to export a surplus in nearly every year. Beginning with 1909, however, our production began to decline, while our requirements continued to increase with population. Net imports consequently have increased. The reduction in consumption in 1917 and 1918 was due to war restrictions, and that in 1920 and 1921 to business depression. It is fairly certain that the figures for 1922, when available, will show an increase of consumption.

As the United States changed in position from an exporter to an importer of flaxseed the farm price of flax increased materially (see Fig. 50). In 1907, when a surplus of over 4 million bushels was exported, the farm price of flaxseed on December 1 averaged 96 cents per bushel. In 1908, when production and consumption were practically equal, the farm price of flaxseed was \$1.18 per bushel. In 1909, when 4,957,000 bushels were imported, the farm price rose to \$1.53 per bushel. The December 1 farm value of the 25,851,000 bushels of the 1907 crop was \$24,713,000, while the farm value of the 19,513,000 bushels of the smaller crop in 1909 was \$29,795,000.

Historical Development of Flax Production.

Flax. cultivated for its fiber, was one of the first plants introduced from the Old World. Records are found of its cultivation soon after the landing of the Pilgrims in Massachusetts in 1620, and it continued to be grown to some extent as a fiber crop for home use as late as 1840. It was about the beginning of the nineteenth century when the manufacture of linseed oil was begun in this country.

Seed flax has held the unique position of a "pioneer crop" in the agriculture of the United States, as it has been grown largely as the first crop on breaking or newly turned virgin sod. The area of flax production, therefore, has moved westward with the settlement of new lands until now it has reached about the western limit of its migration. Seed flax is raised as a cash crop, practically none of the crop

except the straw being consumed directly on the farms where grown.

The census of 1850 showed Ohio and Kentucky to be the chief flaxseed-producing States in 1849. By 1859 flax was well established in Indiana, and in 1869 in Illinois and Wisconsin. Ten years later, in 1879 (Fig. 52), Iowa was producing a considerable quantity of flaxseed, and by 1889 (Fig. 53) Minnesota, Iowa, and South Dakota were the principal producing States. By 1899 (Fig. 54) North Dakota had taken the lead in the production of flaxseed, and, with Minnesota and South Dakota, it still continues to produce the bulk of our crop (Figs. 55 and 56).

Formerly flax was considered to be hard on the soil because it did not produce well if grown continuously on the same field. About 1900 a flax disease called flax wilt was discovered. It was found also that it became more and more destructive if flax was grown for several years on the same piece of land. This probably accounts for the idea that flax was hard on the land and for its steady westward migration to new soils during the last 75 years.

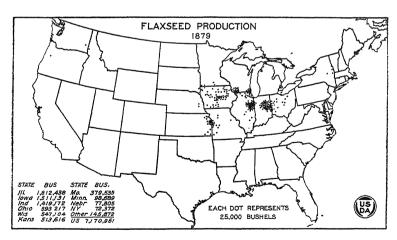


Fig. 52.—In 1879 the centers of flaxseed production were located in the Mid-Western States. Four centers are seen, namely, in Indiana, Illinois, Iowa, and Missouri-Kansas. The latter was a new development, producing 893 thousand bushels in that year. It increased during the next 20 years and became known commercially as the "southwestern crop." Flax was just appearing in Minnesota and the Dakotas, which 20 years later were to become the centers of production.

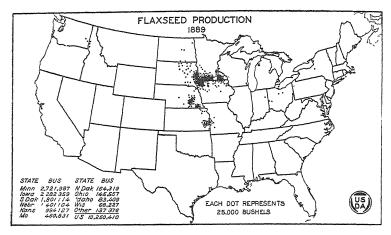


Fig. 53—By 1889 a remarkable shift has taken place. Production has almost disappeared from Indiana and Illinois and other States east of the Mississippi River. The production in Iowa has moved northwestward and become part of a new and very important center covering the adjacent portions of Minnesota, Iowa, and South Dakota. A new center has appeared in southeastern Nebraska, while the Missouri-Kansas production has increased.

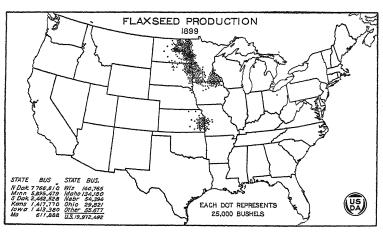


Fig. 54.—By 1899 the center of production has shifted again to the north-westward. North Dakota has become the leading producer, its producing area being continuous with that of Minnesota, South Dakota, and northern Iowa. Production in Nebraska has disappeared, while that of the Mississippi production has almost disappeared.

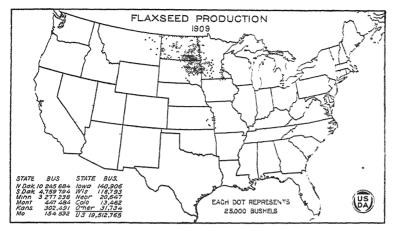


Fig. 55.—Only one important producing center remains in 1909, and it has moved steadily northwestward during the decade just passed. North Dakota remains the leading producing State, but production now covers the entire State, instead of being concentrated in the eastern portion, and the area now extends into northeastern Montana. South Dakota and Minnesota produce relatively less, while production in Iowa has nearly disappeared. The Missouri-Kansas center has been greatly reduced. North Dakota produces more than half of the total quantity.

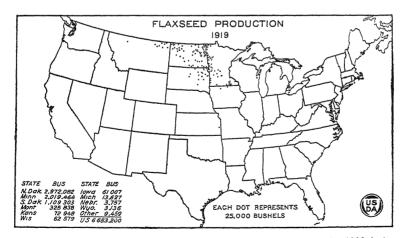


Fig. 56—The crop in 1919 has about the same distribution as in 1909 but, owing to very unfavorable climatic conditions, production was only one-third that of 1909, and also was the smallest of recent years. The western movement has reached the foothills of the Rocky Mountains, and probably has reached the western limit to its migration. Any future increase in production probably must occur in the States where the crop is now grown, or through a development of the flax industry in States farther east, where it once was grown so abundantly

Natural Factors Influencing Production.

Of the natural factors influencing seed-flax production from year to year, climate, especially rainfall, competition from weeds, and fungous diseases, especially flax wilt, are the most important.

Soil and climate.—As flax roots ordinarily do not feed deep in the soil, flax does best on loam or clay soils which are fertile and retentive of moisture. Abundant moisture during the growing period, with drier conditions during the ripening and harvest period, is very favorable for flax.

Flax is particularly well adapted to seeding on freshly turned or backset sod where, comparatively, it does better than most other farm crops. In a rotation, therefore, it is likely to do well following a sod-forming crop such as clover and timothy, or on corn ground following such a crop. Plowed pasture lands are excellent for flax. Flax often is sown late on land that is too wet to seed early in the season, and it is well adapted for this purpose, as it matures in a comparatively short season. As flax does not produce a dense shade it can be sown as a nurse crop with alfalfa, clover, or grass.

Weeds.—Flax does not compete well with weeds, and therefore it is generally grown on new land or after a grass crop, or following a cultivated crop where weeds have been eliminated.

Diseases.—The principal diseases of seed flax are wilt, heat canker, and rust. Wilt is a fungous disease which causes marked losses only where flax is grown continuously on the same land or on old, wilt-infested land, where it may cause a total loss of the crop. Fortunately, a number of fairly satisfactory wilt-resistant flax varieties are available.

Heat canker is caused by excessively high temperatures at the soil surface when the plants are very young. It occasionally causes marked losses, especially in western North Dakota and eastern Montana. The stems are girdled and the affected plants break over. Some of these die, but others continue to grow poorly. The most feasible control measure appears to be early seeding. This enables the plants to pass the susceptible stage before the hot weather of late June and early July.

Flax rust is important chiefly in limited sections of the Red River Valley of North Dakota and Minnesota. It lives over winter only on the old flax stubble and straw. Proper crop rotation is the only available control measure at present.

Insects.—Grasshoppers frequently do great injury to flax in the northern Great Plains area. These insects eat off the slender branches of the ripe panicles, which allows the seed bolls to drop to the ground. Grasshoppers are controlled by poisoning with bait prepared with wheat bran and scattered through the fields.

Markets and Marketing.

Flaxseed grown in the United States is marketed at local elevators in the same way as wheat or other small grains. In many localities of small production, however, a comparatively small volume of seed is marketed; and because the price often fluctuates widely, flaxseed usually is bought on a wider margin than is wheat, and the grower often does not receive the full value of his crop. This condition could be improved if several growers of flaxseed in such localities would combine their deliveries and thus market a carload or more at one time.

Classes.—At the present time there are three recognized commercial classes of flaxseed: (1) Northwestern-grown seed, (2) southwestern-grown seed, and (3) foreign seed. Northwestern-grown seed is that portion of the domestic crop grown almost entirely in five States, namely, North Dakota, South Dakota, Minnesota, Montana, and a small portion of northern Iowa. It comprises nearly 95 per cent of our domestic production. This class includes also the seed imported from Canada. This is produced just across the line from North Dakota and Montana and is comparable in quality to our production. The southwestern seed constitutes only about 5 per cent of our crop and is grown in Missouri, Kansas, Nebraska, and eastern Wyoming. It is inferior to the northwestern-grown seed.

Foreign seed is that imported from South America, Manchuria, and India. The greater proportion of the seed imported into the United States comes from Argentina, a

smaller quantity from Canada, already discussed under the northwestern-grown class, and sometimes a still smaller quantity from Manchuria and Siberia. Only occasionally does any seed arrive from India.

Markets.—The principal markets for domestic flaxseed are, in order of their importance, Minneapolis, Duluth, Milwaukee, and Chicago for northwestern-grown seed, and Fredonia, Kans., and Des Moines, Iowa, for the southwestern-grown seed. Much of the imported seed comes through the port of New York. It is not all crushed there, however, a considerable portion being shipped to Buffalo for crushing.

Crushing centers.—The linseed-crushing industry is widely distributed throughout the United States, though there are two principal centers of manufacture. The larger part of our domestic seed is consumed in linseed mills in Minneapolis, St. Paul, Chicago, Superior, and Milwaukee, though some seed is shipped to Toledo and Buffalo by way of the Great Lakes. About half of our total linseed-oil manu-

ANNUAL VARIATION IN QUALITY OF FLAXSEED, MINNESOTA MARKETS, IN CROP-MOVEMENT YEARS ENDING AUGUST 31, 1919 TO 1922, INCLUSIVE.

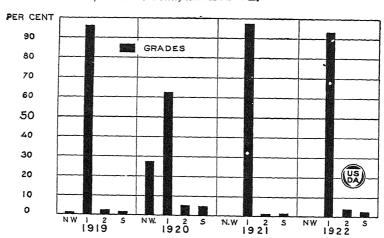


Fig. 57.—Percentage of annual flax marketings in Minnesota by grades. Nearly all the flax marketed in Minnesota, including that sold on the two principal markets of Minneapolis and Duluth, which receive the bulk of the crops from North Dakota, South Dakota, and Montana, is No. 1. The crop of 1919 (marketed in 1920) showed wider variation in quality than usual, about 28 per cent being graded as Northwestern, the highest grade.

facture is located in New York City and Buffalo. These mills depend quite largely on imported seed for their raw material. The western mills have the advantage of being close to our domestic supply of flaxseed, while the eastern mills have the advantage of cheap ocean freight rates on flaxseed from Argentina and also on linseed cake, which is exported in large quantities to Europe.

Grades.—At the present time six States and four boards of trade or chambers of commerce have special sets of grading rules for grading flaxseed. The grades vary in number from three to four. Apparently only one or two grades are of importance (Fig. 57). About 75 per cent of our domestic crop is marketed at Minneapolis and the remainder at Duluth, Milwaukee, and Chicago. Due to this fact, the rules of the Minnesota State Inspection Department are the ones most largely in use. Chicago and New York use the Minnesota State Inspection Department classifications. All foreign seed imported into this country is graded by the Linseed Association of New York, an organization of buyers and sellers, who sample and grade all imported oil-bearing seeds.

Quality as shown by grade.—The quality and consequent grade of flaxseed are dependent on the weather conditions that prevail during the growing season and harvest and the condition under which flax is stored from the time of harvest until it is marketed. The total receipts of each grade at all inspection points within the State of Minnesota for the four crop-movement years—September 1, 1918, to August 31, 1922, inclusive—are shown in Figure 57. These receipts cover the crops of 1918 to 1921, inclusive. The figures show that nearly all the flaxseed goes into grade No. 1.

Uses of Flaxseed.

The principal products of flaxseed are linseed oil, for paints and manufacturing purposes, and linseed meal, used for feeding stock.

In the manufacture of linseed oil the seed is ground, heated, and pressed to extract the oil. The residue remaining after pressing is known as linseed cake, or, when ground, as linseed meal. The oil is used chiefly in paints and varnishes and in the manufacture of linoleum, oilcloth, printer's ink, patent leather, and a few other products. The seed

contains from 30 to 40 per cent of its weight in oil and yields about $2\frac{1}{2}$ gallons ($7\frac{1}{2}$ pounds per gallon) of oil to the bushel (56 pounds) of flaxseed.

The whole seed is very rarely fed to live stock. As flax has a much lower proportion of hulls than cottonseed, it produces a much more uniform product than cottonseed meal, especially in protein content. While it usually contains less digestible protein than cottonseed meal, the fact that it has laxative properties compensates for the greater percentage of digestible protein in cottonseed meal. The latter, in fact, is costive. Linseed meal has no toxic properties such as cottonseed meal has. In feeding it care should be taken to avoid excessive laxativeness. It is especially valuable as a source of protein for all young growing stock and to breeding animals previous to parturition. As a supplement to corn it compares favorably with tankage and milk for fattening hogs.

Flaxseed is used little, if at all, as human food, except that it forms a part of certain food products, homemade or commercial, intended for the relief of constipation. In Europe linseed oil is used for food purposes to a very considerable extent in certain localities, as in the River Spree district of Germany, for instance.

Buckwheat.

Buckwheat does not belong to the grass family and therefore is not truly a cereal. It is grown, however, for the making of flour for human consumption, and hence is a cereal substitute.

Importance of the Crop.

Buckwheat is an important crop in certain limited sections of the United States. More than 60 per cent of the crop is produced in the two States, Pennsylvania and New York, while nearly 20 per cent is produced in West Virginia, Virginia, Michigan, and Wisconsin combined. In portions of these States, especially in those localities leading in production, a considerable portion of the cultivated land is devoted to the crop.

Buckwheat, however, is a comparatively unimportant crop in the United States. For every bushel of buckwheat

produced in 1922 there were produced 192 bushels of corn, 57 bushels of wheat, 81 bushels of oats, 12 bushels of barley, 6 bushels of rye, and nearly 3 bushels of rice. Furthermore, buckwheat is never likely to attain greater relative importance as a crop in this country. But it has a place of importance in the agriculture of the areas where it is now grown, and there is a definite and steady demand for the grain and its products.

World Production of Buckwheat.

Postwar statistics on buckwheat production in all the producing countries of the world are not available. In the period from 1909 to 1913, however, the United States, with an annual average of 17,528,000 bushels, was surpassed only by Russia (pre-war European and Asiatic) with over 55,000,000 bushels, and by France with over 21,000,000 bushels. Canada produced about one-half and Japan about one-third as much as the United States.

Trend of Production in the United States.

Buckwheat acreages in the United States from 1866 to 1869 apparently were very high. A sharp drop in acreage occurred in 1870, and this reduction persisted through 1874. From 1876 to the present time the acreage in the United States has been nearly stationary, as is shown in Figure 58. The smallest acreage in this period was in 1900, when only 638,000 acres were sown to this crop. The largest acreage in this period was in 1919, when 1,084,000 acres were sown.

Production of buckwheat, depending as it does on both acreage and acre yield, has varied more from year to year than has acreage. Acre yields, somewhat larger than usual in several of the years since 1909, and larger acreages in a few of those years, have resulted in increased production since that date.

The acre yield of buckwheat has fluctuated considerably from year to year. The lowest recorded acre yield was 8.9 bushels, in 1883. The highest was in 1912, when it reached 22.9 bushels.

Farm prices per bushel of buckwheat on December 1 of each year fluctuated between 40 and 80 cents in most of the period from 1866 to 1915. The minimum was 39.2 cents in

BUCKWHEAT: ACREAGE, PRODUCTION, ACRE YIELD, AND FARM PRICE, UNITED STATES, 1866-1922.

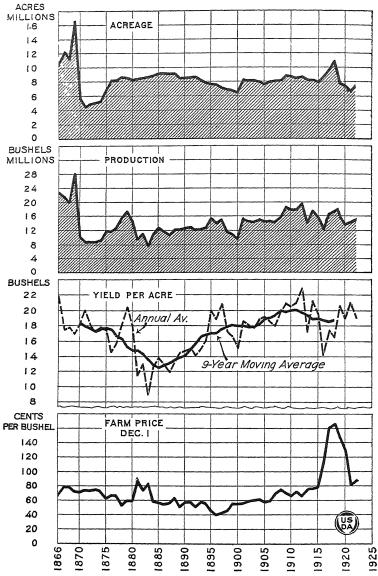


Fig. 58.—Since about 1876, fluctuations in buckwheat acreage have been slight. Production has fluctuated somewhat more widely, owing to seasonal conditions, but the general trend has been upward since 1883. Average acre yield increased rather steadily from 1885 until 1912. Price trend was downward until 1896, and then upward steadily to 1915, then rapidly upward to 1918, after which it fell rapidly.

1896, and the maximum was 86.5 cents in 1881. In 1916 the bushel price rose to about \$1.13 and in the next year to \$1.60. The highest price recorded during this war period was \$1.67, in 1918, after which time the prices rapidly fell to the comparatively low price of \$1.2 cents on December 1, 1921. In 1922 the price on this date was 88.5 cents.

Historical Development of Production in the United States.

Buckwheat was brought from Europe to the United States by the early settlers. The Dutch colonists who had settled along the Hudson River, according to early records of the colony, sent samples of buckwheat back to Holland, along with grain of other crops, after the harvest of 1625. Buckwheat does not appear to have been an important crop in the early colonial days. Corn, wheat, and rye were largely depended upon for food, while buckwheat is not often mentioned. The production of this crop, however, increased with the growth of the country, for 7,291,743 bushels of buckwheat are reported in the first agricultural census in 1840. The historical development of buckwheat production, as shown by census reports each 20 years following 1839, is given in discussions in connection with the production maps (Figs. 59-61).

Buckwheat growing always has been confined to the northeastern quarter of the United States, and the center of production always has been in New York. Pennsylvania, and northern New Jersey, with some overlapping into eastern Ohio. The economic significance of the crop is that it can be grown on soil not satisfactory for wheat and that buckwheat carries the production of a bread grain a little farther into otherwise unproductive areas. It also is a crop that has been used on newly cleared land and land just being brought under cultivation, and is widely used as a honey plant.

Factors Influencing Buckwheat Production.

Buckwheat in general is the best grain crop for poor, thin land. Its natural and favorite environment is "back in the hills." On land where wheat or even rye can not be grown with profit buckwheat often is able to produce a profitable yield. The climatic conditions, however, must be favorable.

On acid soils, which are quite common in the Northeastern States, buckwheat does well. It does not require large supplies of lime in the soil, although lime is taken up largely by the plant.

Buckwheat is a suitable crop for growing on new land. Land just cleared of timber or drained marshland containing much decaying vegetable matter will produce good yields of this grain.

Buckwheat serves to make even very hard land mellow and friable. Consequently it is a good crop to use in preparation for such crops as potatoes.

Low-grade fertilizers may be used to advantage in the growing of buckwheat, as it can make use of relatively insoluble materials to better advantage than the other cereals.

As it has a short growing period, buckwheat can be grown on land where fall-sown crops have winterkilled or springsown crops, such as corn, have failed to make a stand. It

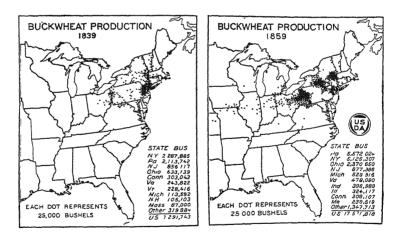


Fig. 59.—In 1839 the production of buckwheat centered in southeastern New York, eastern Pennsylvania, and northwestern New Jersey. About 60 per cent of the total crop of the United States was produced by New York and I'ennsylvania, and this is not far from the proportion that they produce at the present time. New Jersey was third in production, followed by Ohio and Connecticut. Twenty years later, in 1859, three distinct areas of large production had developed, one in east-central New York, one in south-central New York and north-central Pennsylvania, and the third in western Pennsylvania and eastern Ohio. The former most important center in New York, Pennsylvania, and New Jersey had decreased greatly in importance. The production of buckwheat had extended westward in Ohio and developed somewhat in Michigan, Indiana, Illinois, Iowa, and Missouri.

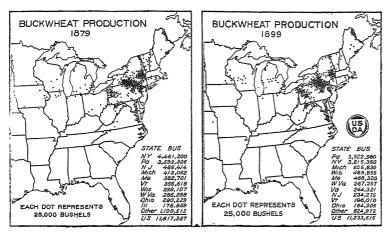


Fig. 60—The most important change shown in 1879 was the decrease that had taken place in the western Pennsylvania and eastern Ohio area. Ohio had dropped from about 2½ million bushels to about 280 thousand bushels in production, or from third to ninth in State rank. The acreage in New Jersey was reduced to about one-half. The two centers in New York and Pennsylvania retained their importance. The States in the Corn Belt had reduced production, but there was some increase in Wisconsin. At the end of another 20 years, in 1899, not much change had taken place. The total production of buckwheat was somewhat less than in 1879. The area in east-central New York had decreased in production. The area in southcentral New York and north-central Pennsylvania was the most important.

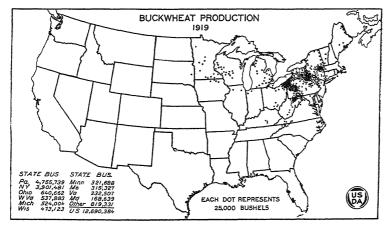


Fig. 61.—The buckwheat map for 1919 shows an increased production in northwestern Pennsylvania and southwestern New York and in northeastern Ohio. New Jersey has still further reduced production, while some increases have taken place in the mountainous sections of West Virginia and Maryland. The total production in this year was less than it had been 50 years before, due principally to decreased acreage.

also can be used where the land can not be worked until late, or where other crops have been drowned out by late spring floods.

Buckwheat can be used to enlarge farm activities. After other crops that must be sown early are all sown there often is time to prepare land and sow buckwheat. On account of the short growing season it may be sown later than any other grain crop. Where it is so used it often may be advisable to sow it even on rich land which otherwise could be used more profitably for other crops.

Climatic requirements.—Buckwheat in general is less critical as to soil conditions and more critical as to climatic conditions than the other grain crops. From north to south it becomes more and more a crop only for the higher elevations, for it requires cool and moist weather, especially at blooming time. It is very sensitive to cold, being quickly killed by freezing temperatures, but fills best when the weather is cool. On account of its short growing season and the small amount of heat required for the total development of the crop, it is grown far north and at high altitudes. Unfavorable weather conditions at blooming time may reduce the yield or even destroy the crop altogether.

Fungous diseases and insects.—Buckwheat has no fungous or insect enemies of importance.

Trade Movement of Buckwheat.

Very little of the buckwheat produced is consumed unmilled on the farms where grown. However, buckwheat does not enter largely into interstate or foreign commerce, as most of the crop is milled in or near the locality where it is grown. Our exports and imports are not large and usually about balance each other, although they vary considerably from year to year. Our exports usually have been less than a half million bushels annually in recent years.

Buckwheat Foods and Feeding.

Buckwheat is grown for use as a food. It has a distinctive flavor, and in composition resembles corn more than it does wheat. The present use of buckwheat flour is chiefly for making pancakes, but in earlier times it was commonly used for buckwheat shortcake or shortbread, a dish still known in some parts of the country. Groats or grits are made from buckwheat, though known only in a limited way in the United States. Buckwheat farina also is manufactured. Buckwheat is well known in northern Europe and Asia as a food grain.

The by-products of buckwheat milling are hulls, so-called bran, and middlings. The hulls are hard and woody and have little food value. The middlings are nearly free from hulls and make a very acceptable feed. The so-called "buckwheat bran" is really a mixture of middlings and hulls. Buckwheat is used as an ingredient of poultry scratch feeds.

Buckwheat fills a very insignificant place in the feeding of farm live stock. It is not very desirable as a whole grain on account of the small size of the kernel, the thickness of the hulls, and their indigestibility. It lacks the palatability of corn and barley. Only the lower grades are used for live stock on farms in the Northeast where it is grown, as the best grades are sent to the mills. The byproducts from the mills are fed principally to hogs and cattle. The value of the by-products depends largely upon the percentage of hulls. Middlings low in hull content are a valuable feed for dairy cattle, being high in protein, carbohydrates, and fat. Buckwheat should be ground or crushed for all classes of live stock.

Costs of Production.

Oats, Barley, and Rye.

It has been said that the difference in cost of producing the various small grains on the ordinary farm is too small to have any influence on the farmer's choice of which grain to include in his rotation. Although this is not necessarily true, it undoubtedly is a fact that the farmer's decision is affected more by the variations in income and other differences between these crops than he is by the relative cost. Oats, barley, and rye all require the same machinery, and usually may be produced and harvested by the same methods. Under these conditions the costs are bound to be much the

same, of course, excepting for difference in seed cost and in those factors that are affected by variations in yield (Fig. 62). These grains, however, do differ greatly in the quality of soil and care they need in order to produce profitable yields, and it is by taking advantage of these characteristics that the farmer may bring about significant cost variations.

REGIONAL VARIATION IN COST OF PRODUCTION.

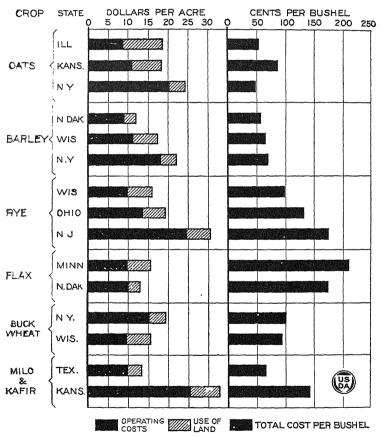


Fig. 62.—When comparing the cost of different crops, it is very important to state the basis on which the comparison is made. The above chart, for instance, shows that the cost of oats is the highest for New York on the acre basis but that Kansas is the high State when compared on the bushel basis. Furthermore, the acre cost of flax is lower than that of the other crops here shown while the bushel cost is highest.

The oat crop is able to adapt itself to a wide range of conditions. In some sections oats generally are grown on plowed land, but in others, like the Corn Belt, it is the common practice to disk them in on corn stubble, thus saving time and reducing the operating cost. Records show, for instance, that in Illinois only about 11 per cent of the crop was grown on plowed land, while in North Dakota the figure is 92 per cent.

Barley requires a better prepared seed bed than the other grains in order to produce a profitable yield. In most sections this means that the ground has to be plowed, with perhaps considerable disking and harrowing in addition, all of which increases the cost of production. Average figures for cost of producing barley should be carefully interpreted, however, because of the fact that it so often is used as a nurse crop. Under such conditions barley fields may be charged with certain operations like rolling and packing which would not be performed were barley sown alone. Furthermore, records for about 75 farms in Wisconsin on which 43 per cent of the barley area was seeded to grass showed that one-fourth of a bushel less seed was sown per acre when used as a nurse crop, which would tend to lower the cost of production.

Rye, like other grains, does best on rich soil, but because of its ability to produce more profitable yields than the other grains on the poorer soil it usually is relegated to sandy, low-priced land. It is a fall-sown grain and often is sown on corn and potato land, with very little seed-bed preparation other than disking or harrowing. Other things being equal, these facts would tend to reduce production costs and give rye a place in the cropping system on many farms.

Comparing all of the three crops from the standpoint of field preparation, we find that in Minnesota, where all these crops are extensively grown, 87 per cent of the barley, 75 per cent of the oat, and 50 per cent of the rye crop was produced on land that had been plowed. The same records show also that while 4.7 hours of labor were required by barley previous to harvest, rye received only 2.8 hours, which may mean a considerable saving when time is limited and wages are high. Although there are other factors that may

enter in to increase the cost of one of these crops over the others, it generally will be found that the total cost per acre for these three grains is lowest for rye and highest for barley in any given region.

Rice.

In 1920 an investigation was made of the cost of producing rice in the three States of Texas, Louisiana, and Arkansas. The average results from 92 of the farms visited are given in Table 5. For the purpose of this analysis the costs have been separated into labor, power, materials, threshing, water, miscellaneous, and the cost of land.

Labor.—Labor is the most expensive single factor in rice production, representing about 40 per cent of the operating costs and about 33 per cent of the total cost. The cost of labor naturally varies considerably from farm to farm, but the averages for the three districts agree very closely. The hours of labor per acre were about 41, 35, and 43 for Arkansas, Louisiana, and Texas, respectively.

Power.—The tractor is more universally used in rice production than for any other crop, and for all districts it made up about one-third of the total power charges. The other two-thirds of the power cost was horse and mule labor, which averages about 41 hours per acre for each of the three sections. The combined cost of horses and tractors was about one-fifth of the total cost of production.

Table 5.—Cost per acre of different items entering into rice production and total cost per acre in Arkansas, Louisiana, and Texas for the 1920 crop.

State.	.S.	Labor.	Power.				Water.					
	Number of farms.		Horse.	Tractor.	Materials.	Thrashing.	Cost of water bought.	Farm pumped water.	Miscellaneous.	Use of land.	Total.	
Arkansas	36	\$21.61	\$ 13.55	\$8.33	\$11. 52	\$2.63		\$ 18. 18	\$12. 4 4	\$12. 01	\$100.27	
Louisiana	29	19.82	12.15	7.13	12.66	1.36	\$0.36	15.09	10.41	9.85	88.83	
Texas	27	19.09	10.20	7.07	11.58	2.86	4.97	7.79	8.50	5.97	78.03	
Total or average	92	20.34	12.16	7.60	11.88	2.31	1.55	14. 24	10.68	9. 62	90.38	

Materials.—This group includes the cost of fertilizers, seed, twine, and sacks. Of these, seed is the most important, amounting to about \$8 per acre or 9 per cent of the total cost. None of the other items is of outstanding importance, excepting perhaps sacks, which averaged about \$2.20 an acre in all sections.

Water costs.—Rice requires a large supply of water during certain periods and, consequently, water becomes a very important item in the cost of producing this crop. In Arkansas, where all of the farmers here included pumped all of the water, the average cost is \$18.18, while in Texas, where many bought either a part or all of the water used in irrigation, the average charge per acre amounts to \$12.76.

Miscellaneous.—In farm production there usually are a great many minor expenses that must be charged to the various productive enterprises. Some of these are true overhead charges, while others are direct charges but too small to be shown separately in general tables. Under "Miscellaneous" in Table 5 are included items like machinery, taxes, insurance, telephone, charge for buildings, etc. The largest item in this group is the cost of machinery, amounting to about \$4 per acre, while the second most important item is the cost of buildings, which is about \$3 per acre.

Grain Sorghums.

Unlike the small grains, grain sorghum is planted in widely spaced rows and cultivated. From the standpoint of labor, therefore, it is one of the intensive crops, comparing favorably with corn. The costs per acre and per ton for two districts, one in Texas and one in Kansas, are shown in Figure 62. In the two districts studied the practices are very different, with the result that there are large variations in costs. The two principal factors causing these differences are manure and labor. In Texas no manure was used, while in Kansas it was applied at the rate of about 5 tons per acre and was valued at \$1.50 per ton, which accounts for \$7.50 of the difference.

The labor records give 16.4 man-hours and 38.3 horse-hours for Texas and 25.2 man-hours and 42.2 horse-hours per acre for Kansas. This is due mostly to the fact that

in Texas the crop was harvested by cutting the heads from the standing stalks and generally was sold in the head. In Kansas, where the stalks are largely used for feed, the crop was cut with a corn binder and shocked. Later it was headed and thrashed, with only a small percentage fed as fodder. The result is that the harvest required only 6.7 man-hours in Texas compared with 12.9 in Kansas. The other costs, such as seed, twine, machinery, etc., also are small items in themselves but make up a total cost of about \$3.50 for Texas and \$6 for Kansas.

Seed Flax.

Flax costs per acre are quite comparable to those of other grain crops (Fig. 62). A very large percentage of this crop, however, is grown on sod or on newly broken virgin land requiring a great deal of disking and harrowing for seed-bed preparation, which adds greatly to the cost. Comparable records for Minnesota show that flax received on an average 6.1 hours of man labor prior to harvest, while only 4.2 hours were spent on oats. Similar figures for North Dakota are 3.3 for flax and 2.9 for oats. Flax, as a rule, is cut with a binder without being tied into bundles. This saves the cost of twine, but the chief reason for the practice is that flax dries out too slowly when bound in sheaves and thus delays thrashing. Flax generally is thrashed out of the gavel.

In general, it may be said that flax is grown only in the highly specialized grain sections and hence is produced with the most modern grain machinery. This tends to reduce the cost of labor and power to the minimum. In North Dakota the cost of man and horse labor amounted to \$4.76 and in Minnesota to \$5.56 per acre. Charges other than for labor are about as follows: Seed, \$1 to \$1.50; machinery, \$0.50 to \$1; and overhead, \$0.50 to \$1; while thrashing, of course, varies directly with the yield, and land use with the value of the land on which it is grown and the interest and tax rates of the community. For North Dakota the cost of threshing flax in 1921 was \$3.78, while the average charge for land was \$3.88.

Buckwheat.

Buckwheat often is spoken of as an "emergency" crop, because it so frequently is sown on land intended for other crops but which could not be sown, due to late spring, wet weather, or other causes. Because of this fact it very often is charged with the labor spent on the fields in preparing them for other crops. In general, however, this may be entirely legitimate, for buckwheat requires a well-prepared seed bed and consequently is benefited by whatever work is done prior to sowing.

In Pennsylvania and New York (Fig. 61), where most of the crop is grown, about 12 man-hours are 28 horse-hours are put on buckwheat before harvest, which is a very much higher charge than is common for other grains. The material charges consist of seed, usually sown at the rate of 1 bushel per acre, and twine, of which about 2 pounds are required by the average crop when cut with a binder. On many of the hilly farms in the East buckwheat is cut with a cradle, however, and bound by hand, and hence no twine is used. The other costs, consisting of mahinery, thrashing, overhead, etc., generally run from \$2 to \$2.50 per acre.

Estimating Costs.

Costs expressed in dollars and cents fluctuate from year to year with changes in the price of those items entering into production. Such figures, therefore, become quickly obsolete and of little value for many of the purposes for which the data were originally collected. This, together with the fact that farmers as well as students often are interested in forecasting costs for the year, makes it necessary to compute costs. Such computations may be worked out in several different ways, but Table 6 illustrates one method that is used commonly because it overcomes the difficulty of determining separately the cost of overhead, machinery, etc.

For this method three types of information are necessary: First, figures for the quantity of labor, power, and materials used; second, the price or cost rate at which these items should be charged; and, third, the relation of the combined total of labor and material to the total operating cost. Whenever the farmer is computing his own crop costs he

should use the hours of labor and quantities of material for his own farm whenever available; while in working up average costs, it is necessary, of course, to apply the proper rates to average standard requirements as determined by cost-accounting research.

Table 6.—Example for computing the cost of producing grains, based on the estimated cost of producing oats in Wisconsin in 1922.

	Average costs for 1922.				Your farm 1922			Your farm 1923.		
Itam of cost.	Umt.	Amount used.	Rates used	Cost per acre	Amount.	Price	Cost.	Amount.	Price	Cost.
Man labor:			Cents							,
Before harvest	Hr.	6	25.0	\$1.50				ii		
In harvest and after	Hr.	9	125.0	2, 25						
Horse labor	Hr.	24	15.0	3,60						
Seed	Bu.	2.2	60.0	1 32						
Twine	Lb.	2.5	14.0	. 35		-				
Coal for thrashing		48	0.5	. 24						
Total labor and material cost (70 per cent of total)				9. 26						
Total operating cost (100										
per cent)				13. 23					• • • • • •	
Interest on land (5 per cent										
on \$90 per acre)				4.50						
Total cost				17. 73						
Value of straw (0.8 ton,										
at \$5)				4.00						
Net cost per acre				13. 73						
Cost per bushel (yield 40				19. 19						
bushels				.34						

¹ Different rates may be used for harvest labor, 1f so desired

Crop Position and Cropping System.

The position of 11 crops in American agriculture is shown in Figure 63. These crops are the four great staples, corn, wheat, hay, and cotton; and the seven crops under discussion in this article, namely, oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat. The place of these crops in the rotation or cropping systems of the country is discussed briefly at the end of the article. The percentage

of cropped land in any given State or county which is devoted to any one crop at any one time depends on all the factors affecting all the crops grown there. The acreage of grain crops depends upon that of other crops. All the principal crops of the country are included in the chart (Fig. 63). This chart shows the percentage of the reported crop acreage occupied by each of these crops at each of the last five census periods, namely, 1879, 1889, 1899, 1909, and 1919. These five censuses cover a 40-year period.

To save space the States are grouped in this chart in so far as possible in such a manner as to bring together those having marked similarity in their agriculture. The most striking feature of the chart is the steadiness with which most of the crops have held their place in the farming of the various agricultural areas.

Position of Eleven Crops in American Agriculture.

Corn.—The only material change in the position of the corn crop is seen in the States of the Great Plains area. The decrease in percentage corn acreage in these States, except for 1919, is not due to decrease in actual acreage of corn but rather to a disproportionate increase in wheat acreage. This has resulted from the settlement of the drier western portions of these States, where wheat is well adapted but corn is replaced by grain sorghums. In 1919 there was an absolute decrease in corn acreage in this region, corresponding to the enormous increase in wheat area. But this latter phenomenon was temporary, and in 1920 both crops returned to approximately a normal acreage. In other parts of the country corn has held its relative position almost unchanged for nearly half a century.

Wheat.—The chart shows that wheat is the most variable in percentage acreage of any of the major crops. The price of wheat is dependent on world conditions. The crop is largely grown with limited rainfall, which causes great variation in production. The possibilities of production also are greater than the present world need. Overproduction and underproduction of wheat, therefore, are not infrequent, with resulting marked price variations, which in turn leads to variability of wheat acreage.

PERCENTAGE OF TOTAL CROP AREA OCCUPIED BY EACH CROP.

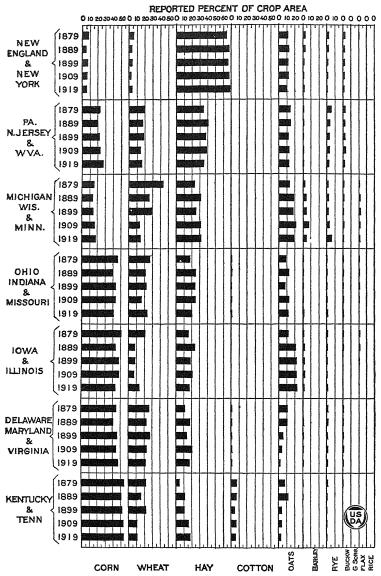


Fig. 63A.—Percentage of total crop area occupied by each of 11 crops, corn, wheat, hay, cotton, oats, barley, rye, buckwheat, grain sorghums, flax, and rice, in the years 1879, 1889, 1899, 1909, and 1919, in each of several groups of States having similar agricultural practices, and together comprising the entire United States. An increasing or decreasing percentage of acreage of any crop means a change in its relative importance but does not necessarily mean increasing or decreasing actual acreage.

PERCENTAGE OF TOTAL CROP AREA OCCUPIED BY EACH CROP.

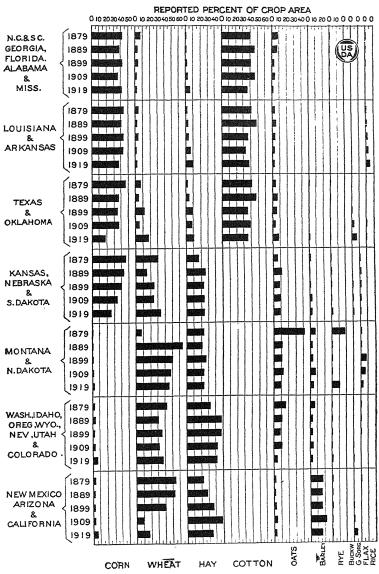


Fig. 63B.—Of particular interest in the above graph is the stability of the system of farming in New England and New York, in the Corn Belt, and in many other parts of the country, as indicated by the relative acreage of the several crops. In other areas changes have taken place; for instance, the decline in the relative importance of wheat in the Lake States and in California, and the small but steady increase in hay acreage throughout the South.

Hay.—The hay crop (Fig. 63) shows consistent increase in relative acreage in two general regions. One is the South, where the acreage of this crop is small, and where production is not sufficient to meet local requirements. The other is in the far Southwest, where hay, wheat, and barley are leading crops. The increase in the latter region has been at the expense of wheat acreage. Elsewhere the percentage area of hay has changed little in 40 years.

Cotton.—The percentage area of cotton is increasing in the far Southwest. It is decreasing along the southern edge of the central and eastern portions of the Cotton Belt, but this decrease is masked in Figure 63 by a corresponding increase in the northern portion of this region.

Oats.—The oat crop (see Figs. 3-11) is by far the most important of the small-grain crops after wheat. Figure 63 shows a consistent decrease in percentage acreage of this crop in the cotton States east of Texas and in the belt of States lying just to the north of them, as also in the western Mountain States. They are increasing in relative importance in the southern part of the Great Plains area and westward to California. Figure 64 tells the story of the

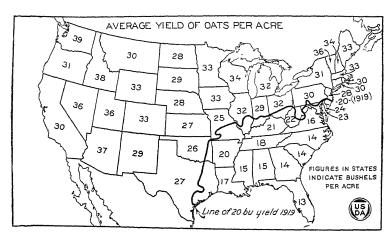


FIG. 64.—Average acre yield of oats, by States, during 50 years in most States, and 20 to 40 in some western States. The heavy line separating the southern area having an average acre yield in 1919 of less than 20 bushels from the northern and western area having an average acre yield of 20 bushels or over in the same year. The yield in several States near this line was less in 1919, however, than the 50-year average yield.

average acre-yield of oats by States for 50 years in most of the country but for only 20 to 40 years in the newer Western States. The line of 10 per cent oat acreage follows very closely the line of 20-bushel yield per acre in 1919. The small acreage of oats south of this 20-bushel line doubtless is to be attributed to the low acre-yield of this cereal in that region. North of this line oats occupy an important place in the agriculture of the region east of the Great Plains. In most of the mountain country oats are relatively unimportant. They are grown there mainly for use on the home farm, transportation to distant markets being too expensive for a cheap and bulky crop like oats. This is in spite of the fact that most of these Mountain States produce better yields and far better quality of oats than any other section of the United States.

Barley.—Figure 63 shows that barley (see Figs. 17-25) really is a major crop in the far Southwestern States. In California it is grown on a large scale for market. It is grown extensively in the Mountain States for feed. The product is too cheap to stand the high cost of transportation to distant markets. It also is important in the northern Great Plains area, mainly as a feed crop and to supply local markets. The only other section of the country where barley occupies any considerable portion of the crop land is in the northern dairy States of Michigan, Wisconsin, and Minnesota. It formerly was of some importance in New York and New England, but now has almost disappeared from the New England States, while the acreage in New York is much less than formerly.

Barley is an important substitute for corn in the feeding system along the northern edge of the Corn Belt and to the westward. It would doubtless be a more important crop if suitable varieties were available without the objectionable barbed awns which characterize most of the better varieties. Such varieties are being developed.

Our habit of measuring grain in bushels also has been disadvantageous to barley. A bushel of barley weighs 50 per cent more than a bushel of oats. If the yields of these two crops were commonly stated in pounds it would be more generally recognized that barley produces materially more

per acre than oats in most of the territory to which it is adapted.

In only a few localities does barley occupy as much as 10 per cent of the crop land. One of these is in the district surrounding the Twin Cities of Minnesota and western Wisconsin. In central California barley occupies 25 to 40 per cent of the crop area in several counties. In general, the barley region is seen to lie to the northward and westward of the important corn-growing region, although it overlaps the corn area considerably along its northern border.

Rye.—This crop formerly was of considerable importance in the northern half of the Atlantic coast region, but its percentage area is decreasing there (Fig. 63), and the crop has almost disappeared from New England and New York. In the north-central dairy States of Michigan, Wisconsin, and Minnesota rye has increased in importance consistently during the last two decades. The most remarkable change in the status of the rye crop in recent years is seen in the enormous increase in acreage in the spring-wheat area, principally in North Dakota. It is the only cereal sufficiently hardy to withstand the severe winters of that region. This fact is of importance in connection with seasonal distribution of labor. By putting part of his land in rye the farmer is able to get along with less hired labor. (See Figs 28–35.)

Rye has three characteristics which largely determine its distribution. It is the hardiest of the cereals, and hence extends farther north and west than winter wheat. It is adapted to sandy land. Finally, it is indifferent to wide variations in rainfall. This makes it a desirable crop for cold regions of deficient rainfall or with much sandy land. Its low price prevents it from being grown extensively for market where long-distance land transportation is necessary.

In general, the rye territory lies to the northward and westward of the winter-wheat area, but there is considerable overlapping of the two. Where they do overlap, wheat ordinarily is by far the more important. Rye occupies as much as 10 per cent of the crop acreage in only a few localities, the most important of these being central North Dakota and west-central Michigan.

Rice.—This formerly was an important crop on certain types of land along the south Atlantic coast, where the in-

dustry is a very old one (see Figs. 37—11). The War between the States almost destroyed rice culture in that section, but it revived again after the war to a considerable extent. However, with the development of rice culture on the level prairies of Louisiana, Texas, and Arkansas, which began in a large way in the early eighties, rice culture dwindled away in the Atlantic coast region and now occupies only a small acreage there. In the last 30 years, as Figure 73 shows, there has been a very large increase in rice acreage in Louisiana and Arkansas. More recently rice culture has appeared in California, where it has assumed considerable magnitude.

It still occupies a narrow strip along the South Atlantic coast and an extensive area along the Gulf coast in Louisiana and Texas, a strip along the Mississippi River in Louisiana, and a large district in eastern Arkansas. The California development is mainly in the Sacramento Valley.

Net exports and net imports show that we imported considerably more rice than we exported before the European war. During the war the price rose to enormous heights, and there resulted a very marked increase in production. Since 1914 we have exported much more rice than we have imported. Prices again are low, and it would be reasonable to expect a decrease in rice acreage in the near future. (See Fig. 44.)

The grain sorghums.—Kafir, milo, and related crops in the last quarter century have assumed an important place in the farming of the southern part of the Great Plains area and in the Southwest (see Fig. 46). They can be grown with relatively light rainfall as compared with corn, and this accounts for their prominence in the regions mentioned. In an important area in northwestern Texas crops of this group occupy more than 30 per cent of the crop area.

Buckwheat.—This crop is important only in the northern half of the Atlantic coast region (see Figs 58-61). It has held its place here very steadily for many years. It ripens in the shortest season of any of the grain crops and grows readily on poor land. It thus is especially adapted to higher altitudes in sections where the soil is none too good. Its greatest development is on the high lands of Pennsylvania and New York.

Flax.—This crop has had a varied history in this country (see Figs. 50–56). In the days of the old self-sufficing agriculture, preceding the advent of railroads, it was an important crop in Atlantic coast districts. As farming went westward flax followed and gradually disappeared from the East. It has now traversed the entire region from the Atlantic coast to the hard red spring wheat area (Fig. 63), which is the only section in which the crop is now important, and in that section it has decreased in acreage. According to the census of 1919, the crop was practically confined to Minnesota, central and northeastern South Dakota, North Dakota, and northeastern Montana.

Up to about 1908 we grew a surplus of flaxseed, in most years exporting considerable quantities. The price was low. and the acreage of flax decreased greatly between 1902 and The small crops of 1909 and 1910 resulted in the importation of flaxseed and a marked rise in price. In 1910 the users of linseed oil started propaganda for increased flax acreage in the Northwest. This resulted in considerable increase in area in 1911 and again in 1912. It happened also that there was a marked increase in acre yield in both these years, with the result that the crop of 1912 was more than twice as large as that of 1910. This caused prices to tumble, and they were at very low levels from 1912 to 1914, inclusive. Immediately there was a great decline in flax acre-The acreage of 1921 was smaller than any reported acreage for 20 years. Since 1909 we have been importing large quantities of Argentine flaxseed. If flax acreage could be stabilized at a point that would still permit importations sufficient to govern prices, flax could be made an important means of diversifying agriculture in the spring-wheat States.

APPENDIX.

Prepared under the direction of the Statistical Committee: Nat C. Murray, Lewis B. Flohr, and O. A. Juve.

STATISTICS OF GRAIN CROPS, 1922.

CORN

Table 1.—Corn: Area and production in undermentioned countries.

		21.00 0.						
		Ar	ea.			Produ	etion.	
Country.	Average, 1909- 1913.	1920	1921	1922 1	Average, 1909- 1913.	1920	1921	1922 1
Northern Hemisphere.						1		
NORTH AMERICA.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Canada ² United States ² Mexico	acres. 309 104,229 11,554	acres. 292 101,699	acres. 297 103,850	acres. 299 103,234	bushels. 17,297 2,712,364 164,657	bushels. 14,335 3,208,584	bushels. 14,904 3,080,372 371,005 4,344	bushels. 14,909 2,896,108 3 61,060
Guatemala		553	310	468		4,062	4,344	
Total North American countries marked 2	104, 538	101,991	104,147		2,729,661	3, 222, 919	3,095,276	
EUROPE.								
France ² . Spain ² . Portugal. Italy ² .	4 1, 155 1, 134 3, 931	829 1,168 734	1,178	750	4 22, 229 26, 548 15, 000 100, 349	15, 267 27, 692 11, 721 89, 298 280	10,393 24,897	70 069
Switzerland 2	3,931 3 4 761	3,710 6 102 376	3,717 5 112 385	3,707 4 395	113 4 14,536	280 2,122 9,648	92,325 217 2,456 9,432	70, 863 185
Hungary ² Yugoslavia ² Serbia, Croatia-Slavo- nia, and Bosnia-	46,038	2,017 4,486	2,167 4,646	1,716 4,787	4 168,081	50, 156 101, 136	30, 800 73, 788	8,996 31,494 57,400
Herzegovina ²	43,059 5273 41,544 45,143	519 1,407 7,595	494 1,418 8,510	1,552 8,411	462,112 55,952 428,219 4100,620	9, 133 20, 851 174, 553	7,874 24,172 103,228	19,802 93,810
Poland	4 3, 923	108	132		4 70, 222	1,082	2,266	
Total European countriesmarked 2	23,041	22, 215	23,446		528, 759	500, 136	379,582	282,550
AFRICA. Morocco, WesternAlgeria. Tunis 2. Egypt 2	34 43 1,857	309 22 25 1,938	375 24 50 2,086	19	461 228 64,220	3,436 254 110 71,939	3,726 354 315 67,165	276
Total African countries marked 2	1,934	1,985	2, 160		64,909	72,303	67,834	
ASIA. British India 2 Japanese Empire:	6,340	6,620	6, 164		87, 240	98,840	78,840	
Japan Chosen Philippines 2	130 156 992	150 1,327	1,344		3,637 2,236 7,446	3,947 15,690	16,734	14,645
Total Asiatic coun- tries marked 2	7,332	7,947	7,508		94,686	114,530	95,574	
Total Northern Hemisphere coun- tries marked 2	136,845	134, 138	137,261		3,418,015	3,909,888	3,638,266	••••••

Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.
 Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
 Commercial source, quoting official statistics.

Table 1 -Corn. Area and production in undermentioned countries-Continued.

Maket in the contract of the c		Are	ea.			Produ	ction.	
Country.	Aver- age, 1908-9 to 1912-13.	1919–20	1920-21	1921- 22 1	Average, 1908-9 to 1912-13.	1919–20	1920-21	1921–221
SOUTHERN HEMI- SPHERE. Chile 2 Uruguay 2. Argentina 2. Union of South Africa 2. Southern Rhodesia. Java and Madura. Australia 2. New Zealund 2	1,000 acres. 56 551 8,128 3 2,171 352 10	1,000 acres. 62 495 8,184 4,003 4,784 265 9	1,000 acres. 63 494 8,090 3,493 186 4,884 284 12	1,000 acres. 60 7,344 190 3,693	1.000 bushels. 1,390 6,027 174,502 332,588 51,404	1,000 bushels 1,446 2,784 258,686 44,808 4,002 61,251 6,764 406	1,000 bushels. 1,685 4,722 230,423 447,669 4,360 7,259 501	1,000 bushels. 2,030 156,056 4 34,136 2,455
Total Southern Hemisphere countries marked 2	11,268	13,018	12,436		225, 264	314,894	292, 259	
World total, all countries marked 2	148,113	147, 156	149,697		3,643,279	4,224,782	3,930,525	
Total, all coun- tries reporting.	163,876	153,967	155,584		3,900,435	4,314,283	4,016,226	

Table 2.—Corn: World production so far as reported, 1895-1921.

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1895	Bushels . 2, 834, 750, 000 2, 964, 435, 000 2, 587, 206, 000 2, 682, 619, 000 2, 724, 100, 000 2, 792, 561, 000 2, 366, 883, 000	1902 1903 1904 1905 1906 1907 1908	Bushels. 3,187,311,000 3,066,506,000 3,109,252,000 3,461,181,000 3,420,321,000 3,406,931,000	1909 1910 1911 1912 1913 1914 1915	Bushels . 3,563,226,000 4,031,630,000 3,481,007,000 4,371,888,000 3,587,429,000 3,777,913,000 4,231,780,000	1916 1917 1918 1919 1920 1921	Bushels. 3,309,818,000 3,540,863,000 3,129,473,000 3,649,815,000 4,314,283,000 4,016,226,000

Table 3.—Corn: Average yield per acre in undermentioned countries, 1890-1922.

Year.	United States.	Russia (Euro- pean).1	Italy.	Austria	Hungary (proper).	France.	Argen- tina.
Average: 1890-1899 1900-1909 1910-1919	Bushels. 24. 5 25. 8 26. 2	Bushels. 13.6 13.9 216.7	Bushels. 15.3 21.4 24.7	Bushels. 19. 5 18. 9 21. 0	Bushels. 23. 0 22. 2 3 28. 0	Bushels. 19.1 18.9 17.8	Bushels. 26.6 19.2
1919 1920 1921 1922	28. 9 31. 5 29. 7 28. 1		23. 1 24. 1 24. 8 19. 1	20. 3 20. 8 21. 9	24. 9 14. 2 18. 4	15, 9 18, 4 12, 8	24. 5 31. 6 28. 5 21. 2

¹ Excludes Poland.

¹ Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922. 2 Indicates countries reporting for all periods except 1922 either as listed or as part of some other country. 3 3-year average. 4 Commercial source, quoting official statistics. 5 1 year only.

² 7-year average.

Table 4.—Corn: Acreage, production, value, exports, etc., in the United States, 1849-1922.

Note.—Figures in *stalics* are census returns, figures in roman are estimates of the Department of Agriculture. Estimates of acres are obtained by applying estimated percentages of increase or decrease to the published acreage of the preceding year, except that a revised base is used for applying percentage estimates whenever new census data are available. Acreages have been revised for years 1890-1908, so as to be consistent with the following as well as the preceding census acreage, and total production and farm values are adjusted accordingly.

		Aver-		Avei-		piiq,	hicag e per cont	r bus	hel,	Domestic exports,	Imports	Per
Year.	Acre- age.	age yield per acre.	Produc- tion.	farm price per bushel	Farm value Dec. 1,		em-	Foll ing	ow-	including corn meal, fiscal vear beginning	during fiscal year beginning July 1.	cent
				Dec. 1.		Low.	Hıgh	Low	Iligh	July 1	Annual Version Property	
1849	1,000 acres.	Bush.	1,000 bushels. 592,071	Cents.	1,000 dollars.	Cts.	Cts.	Cts.	Cts	Bushels. 7,632,860	Bushels.	P.ct
1859 1866–1875 1876–1885 1886–1895	37,216	25 4	838,793 969,948 1,564,992	46 9 59 5 36 7	454,535 617,780 548,785	42	55 48 43	50 44 40	59 49 51	4,248,991 21,242,396 69,091,110 59,293,085	49,190 66,076 33,334	2, 5 4, 4
1896	S6,550 S8,127 S8,304 94,914 95,042	24 3 25 6 25.9	2,261,119 2,454,628	21. 3 26 0 28. 4 29. 9 35 1	558,309 642,747	331 30	237 271 38 311 407	23 32 321 36 425	37 343 401	178, 817, 417 212, 055, 543 177, 255, 046 213, 123, 412 181, 405, 473	$\frac{4,171}{2,480}$	9 4 7.8 5.7
1901 1902 1903 1904 1905	90,661 93,340	27 4 25 9 27 1	1,613,528 2,619,499 2,346,897 2,528,662 2,748,949	$\frac{42}{43}$, $\frac{1}{7}$	969, 285 1,049, 791 987, 882 1,105, 690 1,120, 513	43; 41 43!	57 43	59% 44 47% 48 47%	46 50 641	28, 028, 688 76, 639, 261 58, 222, 061 90, 293, 483 119, 893, 833	40,919 16,633 15,443	2.9 2.5 3.6
1906. 1907. 1908. 1909.	93,643 94,971 95,603 98,383 104,035	20.5 26.6 26.1	2,512,065 2,544,957 2,572,336	50. 9 60. 0 58. 6	1,138,053 1,277,607 1,527,679 1,507,185 1,384,817	57 564 623	66	19½ 67; 72½ 56 52½	56 82 76 63 55½	86, 368, 228 55, 063, 860 37, 665, 040 38, 128, 498 65, 614, 522	20,312 258,065	2. 2
1911 1912 1913 1914	105,825 107,083 105,820 103,435	29 2 23.1	2,531,488 3,124,746 2,446,988 2,672,804	48.7 69.1	1,565,258 1,520,454 1,692,092 1,722,070	$\frac{47!}{64}$	731	761 554 67 501	$72\frac{1}{2}$	50,780,143		1.6
1915 1916 1917 1918	106,197 105,296 116,730 104,467	24. 4 26. 3	2,566,927 3,065,233	88 9 127. 9	1,722,680 2,280,729 3,920,228 3,416,240	88 160	96 190	69 152 150 160 <u>1</u>	170	39,896,928 66,753,294 49,073,263 23,018,822	5,208,497 2,267,299 3,196,420 3,311,211	
1919		31. 5 29. 6	2,811,302 3,208,584 3,068,569 2,890,712	67. 0 42. 3	3,780,597 2,150,332 1,297,213 1,900,287	701 467	86 51½	59	217 66 65	16,728,746 70,905,781 179,514,442	5,743,384	

¹ No. 2 to 1908.

² Acreage adjusted to census basis.

³ Preliminary estimate.

Table 5.—Corn: Acreage, production, and total farm value, by States, 1920-1922.

Chaha	Thou	sands of	acres.	Produc	tion (thous bushels).	ands of	Total val	ue, basis D ands of do	ec. 1 price flars).
State.	1920	1921	1922 1	1920	1921	1922 1	1920	1921	19221
Maine New Hampshire. Vermont Massachusetts. Rhode Island	29	30	32	1,305	1,500	1,312	1,670	1,155	1,312
	24	24	24	1,080	1,272	1,032	1,566	954	774
	81	81	82	3,807	4,455	3,444	4,797	3,386	3,134
	64	65	65	2,560	3,120	2,600	3,200	2,402	2,444
	14	14	14	560	644	560	1,008	708	672
Connecticut New York New Jersey Pennsylvania Delaware	767 236	74 798 241 1,589 185	77 798 236 1,573 185	2,960 30,680 10,384 70,020 6,488	3,848 36,708 11,327 76,272 6,845	3,465 28,329 9,912 69,212 5,439	4,144 35,589 8,826 70,020 4,866	3,463 24,594 6,003 41,950 3,080	3,326 23,513 6,938 49,833 3,807
Maryland	650	645	635	25,025	25, 155	25, 400	20,270	12,326	17,272
	1,854	1,904	1,904	56,520	47,600	53, 312	56,520	32,844	42,116
	600	592	604	20,400	20,128	20, 536	23,664	15,096	17,250
	2,428	2,552	2,526	54,630	49, 254	50, 520	61,732	38,418	44,963
	1,830	2,022	2,062	34,770	32, 352	29, 899	40,333	23,940	26,012
GeorgiaFloridaOhioIndianaIllinois.	4,393	4,665	4,385	65,895	69,975	52,620	69,190	37,087	45,253
	750	788	750	10,125	11,032	10,500	10,125	5,817	7,350
	3,965	3,785	3,823	172,081	155,185	149,097	117,015	63,626	98,404
	4,834	4,718	4,765	195,777	169,848	176,305	115,508	62,844	98,731
	9,079	8,999	8,819	314,133	305,966	313,074	185,338	116,267	187,844
Michigan. Wisconsin. Minnesota. Iowa. Missouri	1,706	1,703	1,720	66,534	66, 417	60,716	54,558	31,880	40,680
	2,067	2,110	2,209	89,294	97, 482	98,300	68,756	44,842	61,929
	3,288	3,820	3,979	123,300	156, 620	131,307	62,883	48,552	73,532
	10,300	10,250	10,123	473,800	430, 500	455,535	222,686	129,150	255,100
	6,646	6,096	6,150	212,672	182, 880	175,275	136,110	73,152	119,187
North Dakota	569	620	680	13,656	17,360	18,700	9,832	5,902	9,350
South Dakota	3,650	3,926	3,861	109,500	125,632	110,038	45,990	32,664	55,019
Nebraska	7,560	7,419	7,296	255,528	207,732	182,400	104,766	56,088	105,792
Kansas	5,007	4,358	5,098	132,686	96,748	98,391	58,382	29,992	60,019
Kentucky	3,334	3,209	3,143	101,687	82,150	88,030	83,383	45,182	60,761
Tennessee	3,511	3,516	3,280	98,308	90,713	75,440	85,528	47, 171	59,598
	3,593	4,042	3,638	56,410	58,609	50,932	55,282	36, 338	45,839
	2,770	3,172	2,918	44,320	57,096	51,065	45,206	31, 974	43,405
	1,569	1,796	1,706	30,125	35,022	29,002	25,606	22, 764	24,072
	5,487	6,227	5,729	142,662	156,920	114,580	119,836	84, 737	95,101
Oklahoma	2,820	3,077	3,200	78,960	76,925	57,600	42,638	24,616	40,320
Arkansas	2,330	2,640	2,350	54,522	58,080	45,825	52,886	33,106	38,951
Montana	184	190	219	2,226	3,800	5,475	1,781	2,546	2,902
Wyoming	50	56	65	1,200	1,232	1,560	672	616	936
Colorado	1,182	1,102	1,145	24,231	15,979	18,320	16,962	4,953	12,091
New MexicoArizona. Utah Nevada	276 29 24 1	290 35 21 1	182 39 32 1	5,989 638 526 32	6,380 1,015 517 29	2,475 1,170 781 21	6,588 1,085 789 51	5,742 1,015 393 35	2,030 1,346 664 22
Idaho	45	47	52	1,620	1,645	1,976	1,620	822	1,561
	62	64	67	2,232	2,560	2,747	2,790	2,202	2,884
	69	66	69	2,139	1,980	2,277	2,781	1,663	2,072
	139	116	116	4,587	4,060	4,176	5,504	3,126	4,176
United States	101,699	103,740	102, 428	3, 208, 584	3,068,569	2,890,712	2, 150, 332	1,297,213	1,900,287

¹ Preliminary estimate.

Table 6.—Corn: Production and distribution in the United States, 1897-193?.

	Old stock		Co	rn.		m	Stock on	Shipped
Year.	on farms Nov 1.	Quantity.	Quality.		ortion antable	Total supplies.	farms Mar. 1 following.	county where grown
1897–1901 1902–1906	1,000 bushels 166, 809 91, 662	1,000 bushele 2,195,795 2,628,334	Per cent 83 3 88.1	Per cent 85 6 82 2	1,000 bushels 2,005,697 2,170,417	1,000 busnels 2,362,664 2,719,996	1,090 bushels 823,739 1,045 965	1,000 bushels 124,824 595,400
1907 1908 1909 1910 1911	77, 403	2,512,065 2,544,957 2,572,336 2,886,260 2,531,488	82 8 86 9 84. 2 87. 2 80. 6	77. 2 83. 2 82 7 86. 1	1,939,877 2,244,571 2,126,965 2,492,763 2,027,9_2	2,641,851 2,614,203 2,619,739 3,000,179 2,655,312	931, 503 999, 235 980, 848 1, 165, 178 884, 059	470,046 565,510 620,057 661,777 517,766
1912 1913 1914 1915 1916	137, 972 80, 046	3, 121, 746 2, 446, 988 2, 672, 804 2, 991, 793 2, 566, 927	85. 5 82. 2 85. 1 77. 2 83. S	85. 0 80. 1 84. 5 71 1 83. 9	2,654,907 1,961,058 2,259,755 2,127,965 2,154,487	3, 189, 510 2, 584, 960 2, 752, 850 3, 090, 802 2, 654, 835	1, 290, 642 866, 352 910, 894 1, 116, 559 782, 303	680, %31 422, 059 498, 283 560, 824 450, 589
1917 1918 1919 1920 1921 1922	34, 448 114, 678 69, 835 139, 083 285, 769 177, 287	3, 065, 233 2, 502, 665 2, 811, 302 3, 208, 584 3, 068, 569 2, 890, 712	75. 2 85. 6 89. 1 89. 6 84. 0 85. 0	60 0 82.4 87.1 86.9 87 5 88.3	1,837,728 2,062,041 2,448,204 2,789,720 2,684,634 2,553,290	3, 099, 681 2, 617, 343 2, SS1, 137 3, 347, 667 3, 353, 308 3, 067, 999	1, 253, 290 855, 269 1, 045, 575 1, 564, \$32 1, 305, 559 1, 087, 412	678,027 362,589 470,328 705,481 587,893 515,236

¹ Prehminary estimate

Table 7.—Corn: Condition of crop, United States, on first of months named, 1902-19??.

Year.	July	Aug.	·Sept.	Oct.	Year.	July	Aug	Sept.	Oct	Year	July.	Aug	Sept	Ort
1902	P. ct 87. 5 79. 4 86. 4 87. 3 87. 5 80. 2 82. 8	P. ct 86 5 78 7 87 3 89 0 88 0 82.8 82.5			1909 1910 1911 1912 1913 1914 1915	P. ct 89. 3 85 4 80. 1 81. 5 86 9 85. 8 81. 2	P. ct 84 4 79 3 69. 6 80 0 75. 8 74. 8 79. 5	P. ct. 74. 6 78. 2 70. 3 82. 1 65. 1 71. 7 78. 8	P. ct 73 8 80. 3 70. 4 82. 2 65. 3 72. 9 79. 7	1916 1917 1918 1919 1920 1921 1922	P.ct. 82 0 81 1 87.1 86.7 84.6 91.1 85.1	P.ct. 75 3 78 8 78.5 81 7 86.7 84.3 85 6	P. ct 71. 3 76. 7 67 4 80. 0 86 4 85 1 78 6	P. ct. 71.5 75 9 68 6 81 3 89 1 84 8 78.4

Table 8.—Corn: Forecast of production, monthly, with preliminary and final estimates, of crops of the United States.

Year.	July	August.	Septem- ber.	October.	November produc- tion estimate.	Final estimate
1912 1913 1914 1915 1916 1917 1918 1919 1920	1,000 bushels 2,811,000 2,911,000 2,916,572 2,814,180 2,865,932 3,123,772 3,159,836 2,815,430 2,778,903 3,123,139	1,000 bushels. 2,811,000 2,672,000 2,673,214 2,917,954 2,777,030 3,190,792 2,989,351 2,788,378 3,003,322,170	1,000 bushels. 2,995,000 2,351,000 2,598,417 2,984,995 2,709,532 3,247,512 2,671,840 2,857,692 3,185,876	1,000 bushels. 3,016,000 2,374,100 2,676,270 3,026,159 2,717,932 3,210,795 2,717,775 2,900,511 3,216,192 3,163,063	1,000 bushels 3,169,137 2,463,017 2,705,692 3,090,509 2,643,508 3,191,083 2,749,198 2,910,250 3,199,126 3,151,698	1,000 bushels 3, 124, 746 2, 446, 988 2, 672, 804 2, 994, 793 2, 566, 927 3, 065, 233 2, 502, 665 2, 811, 302 3, 208, 584 3, 068, 569
Average	2,937,976	2, 881, 621	2, 873, 321	2,901,880	2, 927, 322	2, 846, 261
1922	2, 860, 245	3, 016, 950	2, 874, 759	2, 853, 399	2, 895, 108	1 2, 890, 712

Table 13.—Corn: Monthly and yearly average price per bushel of reported sales, No. 3 yellow, 1899-1900 to 1921-22.

CHICAGO.1

Crop year.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept.	Oct.	Weight- ed aver- age.
1899–1900. 1900–1901 1901–2. 1902–3.	\$0.31 .37 .60 .53 .44	\$0.30 .35 .64 .46 .44	\$0.30 .36 .62 .43 43	\$0.32 37 .59 .43 .46	\$0.36 .39 .59 41 .46	\$0.39 .42 .62 .41 .49	\$0.38 .43 .62 .46 .49	\$0.40 .42 .63 .49 .50	\$0.41 .48 .65 .51 .49	\$0.40 .56 .60 .53 .52	\$0.40 .56 .59 .51 .53	\$0.42 .56 .60 .45 .55	\$0.36. .43 .62 .47 .49
1904–5. 1905–6. 1906–7. 1907–8. 1908–9.	.48 .45 .43 .59 .63	.43 .42 .42 .58 .59	.42 .42 .41 .53 .64	.44 .42 .43 .54 .65	.47 .40 .43 .63 .66	.48 .42 .44 .65 .69	.50 .47 .52 .73 .73	.55 .49 .53 .72 .75	.57 .52 .54 .76 .72	.54 .54 .57 .81 .70	53 .47 .64 .80 .69	. 53 . 46 . 65 . 77 . 59	. 48 . 44 . 50 . 68 . 65
Av., 1899-1908	.48	. 16	. 46	.47	.48	. 50	. 53	.55	.57	.58	. 57	.60	•51
1909-10. 1910-11. 1911-12. 1912-13. 1913-14.	.59 .19 .68 .52 .72	.59 .45 .61 .46 .66	.64 .45 .62 .46 .62	.63 .45 .64 .48 .62	.61 .45 .68 .49 .64	.57 .50 .78 .55 .67	.60 .54 .79 .57 .70	.59 .55 .75 .60 .72	.62 .63 .68 .62 .71	.64 .65 .79 .74 .82	.58 .67 .74 .75 .79	.50 .73 .65 .70 .73	. 59 . 53 . 71 . 53 . 70
Av., 1909-1913	.60	. 55	. 56	. 56	. 57	.61	.64	.64	.65	.73	.71	.66	.61
1914–15 1915–16 1916–17 1917–18	.67 .63 .98 2.21	.64 .69 .92 1.77	.71 .74 .98 1.77	.74 .74 1.00 1.81	.72 .73 1.09 1.70	.75 .76 1.40 1.65	.77 .75 1.59 1.60	.74 .74 1.70 1.62	.78 .81 1.99 1.70	.81 .85 2.06 1.72	.74 .86 2.10 1.58	.65 .96 2.03 1.41	.70 .79 1.11 1.63
1918–19 1919–20 1920–21	1.33 1.46 .77	1.45 1.47 .74	1.43 1.51 .65	1. 27 1. 46 . 63	1.53 1.58 .62	1.62 1.69 .57	1.74 2.02 .60	1.78 1.89 .63	1.92 1.58 .60	1.95 1.58 .56	1.55 1.31 .53	1.41 .91 .45	1.62 1.59 .62
Av , 1914-1920	1.15	1. 10	1.11	1.09	1.14	1.21	1.30	1.30	1.34	1,35	1. 24	1.12	1.15
1921-22	.47	. 47	.48	. 55	. 57	.58	.62	.61	.64	.62	.64	.69	. 55

KANSAS CITY.2

	Av., 1909–1913 Av., 1914–1920 1921–22	1.13	1.08	1.08	\$0.56 1.08 .53	1.12	1.19	1.27	\$0.64 1.26 .59	1.31	\$0.71 1.30 .58		1.08	\$0.60 1.12 .54
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ST. LOUIS.3

Av., 1909–1913. Av., 1914–1920 1921–22.	1. 13	1.10	1.11	1.11	1.14	\$0.62 1.22 .57	1.30	\$0.64 1.29 .60	\$0.68 1.35 .65	1.31	\$0.70 1.23 .63	\$0.66 1.10 .69	\$0.60 1.15 .57
1													

Compiled from Chicago Daily Trade Bulletin
 Compiled from Kansas City Daily Price Current and Grain Market Review.
 Compiled from St. Louis Daily Market Reporter.

Table 14.—Corn (American mixed): Average spot prices per bushel of 56 pounds at Liverpool.

For rate of exchange used	ın	conversion from	a shillings se	e T	'able 551, r	o. 1010 ¹	Į

Year.	Jan	Feb.	Mar.	Apr	May.	June.	July	Aug.	Sept.	Oct.	Nov.	Dec
1912	\$0.92 .82 .91 1.04 1.40	\$0.95 .82 .91 1.11 1.47	\$0.94 .81 .91 1.10 1.43	\$0.95 .82 .91 1.09 1.43	\$0.95 .82 .91 1.13 1.47	\$0.95 .82 .92 1.08 1.28	\$0.93 .82 .93 1 ±0 1 37	\$0 99 .90 1.13 1 18 1.44	\$0 99 .95 1 11 1.16 1.41	\$0.99 .89 1.04 1.16 1.48	\$0.91 .90 1.00 (2) 1.71	\$0.86 .91 .44
1917. 1918. 1919. 1920. 1921.	1.95 2.16 2.11 (2) 1.49 .81	2. 00 2. 16 2. 11 1. 93 1. 15 . 90	2. 05 2. 16 1. 65 2. 14 1. 13 . 85	1. 98 2. 16 1. 63 2. 16 1. 01 . 83	2 03 2.16 1 63 2.04 .95 .84	2.05 2.16 1.61 2.06 . 97 .84	2.05 2.34 1.55 (²) .98 .98	2 05 2.52 (°) (°) (°) .92 .92	2. 05 2. 52 (²) (²) . 85 . 90	2.05 2.52 (2) 1.63 .71 1.00	2 05 2.53 (2) 1 58 .78 1 00	2.05 3.51 1.55 1.75 1.75

¹ Broomhall's Corn Trade News

Table 15.—Corn: Spot prices per bushel of 56 pounds at Buenos Aires.1 [For rate of exchange used in conversion from shillings see Table 551, p. 1010.]

Year.	Jan	Feb	Maı	Apı.	May.	June	July.	Λug.	Sept.	Oet.	Nov.	Dec.	Aver- age.
1912 1913	(2) \$0. 54	(2) \$0. 51		\$0. 58 56	\$0 53 . 55	\$0 52 . 55	\$0. 51 . 55	\$0.52 .55	\$0.50 .62	\$0 51 .59	\$0. 52 . 58	\$0 53 .58	\$0. 52 . 56
1914 1915 1916 1917 1918 1918 1919	. 55 . 54 . 56 1. 07 . 79 . 57 . 70	. 56 . 61 . 60 1. 07 . 79 . 52 . 71	. 56 . 56 . 56 . 99 . 74 . 47 . 83	54 . 57 51 1. 03 . 59 . 55 1 03	. 59 . 54 . 45 1. 27 . 53 . 55 1 13	.55 .50 .43 1.46 .57 .55 1.10	57 .51 .45 1.43 .64 .96	3 56 . 49 . 51 1 27 . 68 1 07 90	.55 .51 .55 .87 .65 .91	. 49 . 51 . 70 . 85 . 63 . 79 . 83	.53 .51 103 .95 .63 .74 .77	.51 .52 .93 .88 .63 .71 .82	. 55 . 53 . 61 1 13 . 66 . 70 . 89
Av. 1914-1920	. 68	. 69	. 67	. 69	.72	.74	.79	.78	.71	. 69	.71	.72	. 72
1921 1922	. 88	.91	.91 .79	.78 .77	.61 .75	. 63 . 71	.65 .78	.66	. 65 . 76	. 58 . 74	.61 .70	. 63 . 74	.71 .74

¹ International Yearbook of Agricultural Statistics 1912–1921. Review of the River Plata, 1922 Average of weekly quotations

No quotations
Interpolation, no quotation

Table 16.—Corn Spot prices per bushel of 56 pounds of yellow La Plata at Liverpool.1 [For rate of exchange used in conversion from shillings, see Table 551, p. 1010.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1912 1913 1914 1915 1916	(2) \$0.71 .65 .98 1.40	(2) \$0.75 .66 1.06 1.44	(3) \$0.76 .68 1.02 1.42	(2) \$0.74 .68 1.06 1.43	\$0.97 .72 .74 1.11 1.47	\$0. 87 . 69 . 76 . 97 1. 33	\$0.71 .67 .78 .92 1.45	\$0.75 .67 .97 .90 1.54	\$0.78 .70 .93 .85 1.39	\$0.72 .66 .83 .94 1.48	\$0.68 -63 -78 1.06 1.69	\$0.67 .67 .83 1.19 1.81	\$0.77 .70 .77 1.00 1.49
1917 1918 1919 1920 1921 1922	\$1.89 2.23 2.04 41.49 1.28 .92	1. 92 2 23 2. 04 51. 77 1. 22 1. 08	2.00 2.23 1.75 51.96 1 30 1.08	2. 16 2. 23 1. 74 1. 97 1. 28 1. 03	(2) 2. 23 1. 74 1. 81 1. 18 1. 06	2. 17 2. 23 1. 72 1. 67 1. 09 1. 01	2. 17 2. 42 1. 65 1 53 1. 05 1. 10	2 17 2 61 1. 66 1. 43 . 93 1 10	2, 17 2 61 1, 69 1, 60 83 1, 09	2. 17 2. 61 1 68 1 49 .72 1. 08	2. 17 2. 61 1 65 1 15 . 78 96	2. 17 2 61 1 52 1. 25 . 88 ! 00	2.11 2 40 1.74 1.59 1.04

¹ Statement prepared by Foreign Section, Division of Statistical and Historical Research, Bureau of Agricultural Economics.

² Not quoted

³ Trading in maize controlled Jones To 1017

² No quotations.

574

CORN-Continued.

Table 9.—Corn: Yield per acre, price per bushel December 1, and value per acre, by States.

	Yı	eld p	er ac	re (b	ushels	(i)		1	arn	ı pri	ce pe	r busi	hel (c	ents)).			1 :	lue p acre ollars
State.	5-year aver- age, 1918-1922	1918	1919	1920	1921	1922 10-year aver-	age, 1913–1922.	1914	1915	1916	1917	1918	1919	1090	1004	1971	1922	5-year a v e r - 1	1922
Maine. N. Hampshire. Vermont. Massachusetts. Rhode Island.	46. 5 43. 0	38.0 52.0 44.0	52 3 45.0	40. 0 40. 0	55. 0 42 18. 0 40 16. 0 40	0.0 1	19 8 21 8 22 8	37 8 31 8 31 8 35 8 9 9	$ \begin{array}{c cccc} 2 & 7 \\ 1 & 8 \\ 5 & 8 \end{array} $	6 11 4 11 0 12	5 21 0 21 0 21	7 1 3 1 5 1	50 1 70 1 70 1	70 1 75 1 72 1	45 26 25	75 76 77	75 91 94	72. 5 67. 6 68. 5 72. 4	7 41. 0 7 32. 2 7 38 2 1 37 6 2 48. 0
Connecticut New York New York New Jersey Pennsylvania Delaware 3	10. 1 12. 8 14. 8 13. 0	36. 0 41. 0 40. 0 31. 0	43.0 40.0 47.0 30.0	10.04 14.04 15.04 17.53	$ \begin{array}{c} 6.035 \\ 7.042 \\ 8.044 \\ 7.029 \end{array} $.5 1: .0 10 .0 9	16 8 01 7 09 7 88 5	5 89 1 85 5 76 2 78 9 69	7	8 11 5 10	0 19 0 17 7 15	8 13 0 13 3 13	75 16 50 18 55 14	17 10	16 35 00	90 67 53	96 83 70 72	77. 10 54. 60 51 28 52. 43	3 43 2 29. 4 3 29. 4 3 31. 6 1 20. 5
Maryland 3 Virginia 2 West Virginia 3 North Carolina 2 South Carolina 1	7. 8 2 3. 4 3 0. 4 2 6. 5 1	8.0: 1.0: 1.0: 7.0:	28. 0 3 34. 0 3 19. 0 2 16. 0 1	8.53 0.02 4.03 2.51 9.01	9. 0 40 5. 0 28 4. 0 34 9. 3 20 3. 0 14	0 10 0 11 0 11 5 12	3 8 7 8 5 9	8 81 9 83 8 86 7 92	71 74 77	1 89 1 93 1 101 7 110 7 113	15 17 17	3 10 0 18 0 17	0 16 0 16 7 18	9 10 4 11 5 11	00 6	59 75 78	79 3 84 3 89 2	36, 14 15, 50 29, 36	27. 2 22. 1 28. 5 17. 8 12. 6
Peorgia 1. Plorida 1.	4. 5 1 0. 5 3 6. 7 3 5. 1 3	6. 0 1 6. 0 4 3. 0 3 5. 5 3	$\begin{array}{c} 5.01 \\ 3.04 \\ 7.04 \\ 6.03 \end{array}$	3. 5 1. 3. 4 4. 0. 5 30 4. 6 3	1. 0 14. 1. 0 39. 3. 0 37. 1. 0 35.	0 9 0 8 0 7 5 7	7 82 3 63 7 60 8 63	80 61 58	73	90 90 84 84	140 136 128	0 13 3 13 5 11	8 14 0 12 9 12	0 10 1 6 5 5	0 5 8 4 9 3	3	70 1 66 3	7.00 9.37	10 3: 9. 80 25 7: 20 7: 21, 30
fichigan 36 Visconsin 45 finnesota 38 Dwa 42 Lissouri 27	2. 1 3 7. 5 2	$\begin{array}{c} 0.04 \\ 6.04 \\ 0.02 \end{array}$	0.03 1.64 7.03	7. 5 41 3. 0 42 2. 0 30	. 0 33. . 0 45. . 0 28.	0 7: 0 7: 5 8:	9 60 3 53 3 60	65 52 55	68 68 62 51 57	92	163 110 108	130 11 125	0 12 1 12 2 12	5 7' 0 5' 0 4'	7 4 3 7 3	6 6	53 3 56 3 56 3	9 78 1.45 3.60	23. 65 28. 04 18. 48 25. 20 19. 38
orth Dakota 26 Duth Dakota 30 ebraska 26 ansas 18 entucky 26	. 3 19 . 6 34 . 1 17 1 7 . 8 26	7. 0 3 7. 7 20 7. 1 15 7. 0 2	3. 0 24 8. 5 30 3. 2 33 5. 2 26 4. 0 30	1. 0 28 0. 0 32 1. 8 28 1. 5 22 1. 5 25	. 0 27. . 0 28. . 0 25. . 2 19 . 6 28.	5 84 5 70 0 74 3 83 0 91	56 65 78	58 50 53 63 64	67 49 47 51 56	84 77 78 90 87	151 120 120 125 121	110 128	119 122 140	42 41 44	20	5 5 5 6 6 6	0 2 0 2 8 2 1 13 9 30	2. 26 5. 17 1. 69 3. 33 0. 47	13. 75 14. 25 14. 50 11. 77 19. 32
ennessee 24. abama 14. ississippi 16. puisiana 17 axas 22.	4 24 7 14 7 17 8 16 2 10	. 0 21 . 6 14 . 0 15 . 0 17	. 4 28 . 5 15 . 0 16 . 5 19 . 0 26	. 0 25. . 7 14. . 0 18. . 2 19. . 0 25.	8 23. (5 14. (0 17. (5 17. (2 20. (94 102 100 100 100	89 77 77	68 80 73 75 74	58 69 65 64 58	94 102 98 94 104	120 125 138 146 167	145 148 151 161 176	159 160 150	98 102 85	62 56 65	7 9 8 8	9 28 0 17 5 20 3 21	3. 20 7. 81 9. 87 9. 46	18. 17 12. 60 14. 88 14. 11
klahoma 20. kansas 19. mtana 16. yoming 22. lorado 16.	2 25. 7 17.	0 16 5 15	0 24.	0 22. 5 14.	0 25. 0 0 24. 0 5 16. 0	99 95 85	72 78 77 80 73	64 80 76 70 60	46 64 69 67 55	93 98 93 90 90	147 140 175 175 125	164 180 135 140 135	127 164 165 165 142	80	32 57 67 50 31	70 84 53	0 15 5 24 3 15	. 68	12 60 16. 58 13. 25 14. 40 10. 56
w Mexico 20. 27. 27. 23. vada 28.	6 28. 6 28. 2 32.	0 29, 0 19, 0 26,	0 22. 2 21. 9 32.	0 29. 9 24. 0 29.	$ \begin{array}{c c} 0 & 30.0 \\ 6 & 24.4 \\ 1 & 21.1 \end{array} $	147 115 133	75 110 70 118	80 120 75 110	73 115 80 93	113 140 115 125	188 190 170 150	180 210 181 210	151 200 150 140	110 170 150 160	90	82 115	31,	. 78 1 . 90 3	1. 15 4. 50 0. 74 2. 16
ho	2 35.	0 32.	0 33.	0 35.	0 36. 0 0 36. 0	109 124	68 80 70 88	72 73 82 87	82	100 100 95 124	155 162 150 185	183 170 155 193	165 185 155 179	100 125 130 120	50 86 84 77	105 91	54. 39.	51 3 11 4 93 3 12 3	3, 05 0, 03

¹ Based upon farm price December 1.

Table 10.—Corn: Farm price, cents per bushel, on 1st of each month, 1908-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver-
1908	54.0 60.7 62.3 48.2 62.2	56.0 61.4 65.2 49.0 64.6	58. 1 64. 7 65. 9 48. 9 66. 6	65 5 49 7	$\begin{vmatrix} 71.9 \\ 63.5 \end{vmatrix}$	55 1	66.2	75. 2 67. 2 65. 8	76 5 71 0 66.3 65 9 77 6	67. 1 61 1 65. 7	62, 2 52, 6	57.9	63. 4 65. 9 62. 1 55. 3 67. 6
1913 1914 1915 1916 1917	48 9 69 6 66 2 62 1 90 0	50 6 68 3 72 8 66 7 95.8	75 1 68 2	70 7 75 1 70 3	72.1 77.7 72.3	60 6 75 0 77 9 74 1 (160. 1	75 5 77 7 75 1	76. 8 78. 9 79. 4	83.6	7%, 2 70 5 82, 3	70.7 70.6 61.9 85.0 146.0	61.4 57.5 58.9	59 1 71.4 71 2 73.8 123.2
1919	144. 7 140 4	138. 1 146. 8 62. 4	137 2 148. 5 64. 5	149 6 158. 6 63. 0	162 6 169. 6 59. 5	152. 5 171. 2 185. 2 62. 5 61. 6	176. 5 185. 6	191. 2 163. 7 61. 7	185 4 155.7 56.2	155 9	133. 1	131 5	; 151. 5
Average, 1913-1922.	86.7	88.6	92. 5	96. 5	103. 7	108. 1	109.7	113.8	111.9	102.9	90 9	90. 2	102 6

¹ Weighted average

Average

Table 11 —Corn: Monthly marketings by farmers, 1917-19:2.

EII	(.'0)	"n" _11	ionini	y mar	<i>ketin</i> ę	js oy	jarme ——	rs, 19	17-19	22.		
Estin	nated a	amoun	t sold 1	nonthl	ly by f	armers	of Un	ited St	ates (1	nıllıon	s of bus	shels).
July.	Aug	Sept.	Oct	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	sea- son
34 27 20 35 28	26 28 25 36 42	22 35 21 45 49	24 27 25 35 39	56 30 40 46 38	78 49 66 74 71	91 61 57 93 80	103 30 42 76 72	88 31 38 58 43	45 34 26 36 27	36 33 33 55 44	37 25 47 61 43	640 410 440 650 576
29	31	34	30	42	68	76	65	52	34	40	43	544
				P	er cent	of yea	r's sale	es.				
5.3 6 7 4 5 5 4 4.9	4.0 6.8 5.6 5.6 7.3	3. 4 8. 4 4. 9 6. 9 8. 6	3.8 6.7 5.6 5.3 6.7	8.8 7.3 9.2 7.1 6.6	12 2 12.1 15.0 11.3 12.4	14. 2 15. 0 12 9 14. 3 13. 8	16 1 7.2 9.5 11.7 12.4	13.7 7.5 8 7 8.9 7.5	7.1 8.2 5.9 5.6 4.7	5.6 8.0 7.6 8.5 7.6	5.8 6.1 10 6 9 4 7.5	100. 0 100. 0 100. 0 100. 0 100. 0
5. 4	5. 9	6.4	5.6	7.8	12.6	14.0	11.4	9. 2	6.3	7.5	7.9	100.0
12 —	Corn:	Exter	rt and	l caus	es of y	yearly	crop	losses	, 1909	9-19 !	1.	
Deficient mosture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total cli- matic.	Plant dis- ease.	Insect pests.	Animal pests.	Defective seed.	Total.
P ct. 13.0 13.9 23.4 8.7 27.1 20.8 3.0 18.5 12.1 22.1 10.8 5.4	P. ct. 7.3 3.0 1.66 1.2 1.3 11.9 5.8 2.9 7.3 3.3	P.ct. 1.58 (1) .9 .4 2.1 1.77 .6 .5 1.44	P.ct. 1.0 .9 .1.7 1.0 .4 6.9 1.7 13.5 2.0	P. ct. 0.5 4 25 3 56 4 4 6 4 3 5 4	P.ct. 1.6 1.6 3.4 1.0 3.1 2.1 1.7 1.2 6.3 1.0	P.ct. 0.75 .1 .3 .4 .4 1.11 .3 3.2 .44 .66	P. ct. 25. 8 21. 3 29. 6 18. 1 33 7 26 1 26 5 31 3 31. 6 32 8 21. 4 11. 3	P. ct. 0. 22	P. ct. 2.3 2.3 2.3 4.8 3.7 3.6 2.1 2.0 1.4 2.6 3.1 3.6 3.1	P. ct. 0.4 .2 .3 .2 .1 .1 .1 .1 .1 .1 .1 .1 .0	P. ct. 0.3 1.2 .4 2.3 .4 .2 .2 .6 .2 1.5 .2 .3 .1	P. ct. 29. 6. 0 26. 0 33 7 26. 3 38. 9 30 6 29. 9 34 7 33. 8 37. 7 25. 4 15. 9 18 7
	Esting July. 34 27 20 35 28 29 5.3 4.5 5.4 4.9 5.4 2 — (13.0 13.9 13.9 18.5 7 12.1 20.8 3 0 18.5 12.1 21.8	Estimated 3 July. Aug 34 26 27 28 20 25 35 36 28 42 29 31 5.3 4.0 6.7 6.8 6.8 6.5 4 5.6 4.9 7.3 5.4 5.9 2 — Corn: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Estimated amoun July. Aug Sept. 34 26 22 27 28 35 20 25 21 35 36 45 22 27 28 25 28 42 49 29 31 34 5.3 4.0 3.4 6.7 6.8 8.4 4.5 5.6 4.9 5.4 5.9 6.4 22 —Corn: Exter 10 on instrough Equation (1.3.0) 7.3 1.5 13.9 3.0 23.4 1.6 (1.9 27.1 1.2 4 20.8 1.3 4.6 (1.9 27.1 1.2 4 20.8 1.3 4.6 (1.9 27.1 1.2 4 20.8 1.3 4.6 (1.9 27.1 1.2 4 20.8 1.3 4.6 (1.9 27.1 1.2 4 20.8 1.3 4.6 (1.9 27.1 1.2 9 6.6 22 1 9 1.5 5.4 3.3 1.4 5.4 3.3 1.4 5.5 4.3 3.3 1.6 5.4 3.3 1.4 5.5 5.8 1.7	Estimated amount sold r July	Estimated amount sold monthly July. Aug Sept. Oct Nov. 34 26 22 24 36 27 28 35 27 30 20 25 21 25 40 35 36 45 35 46 28 42 49 39 38 29 31 34 30 42 P 5.3 4.0 3.4 3.8 8.8 6 7 6.8 8.4 6.7 7.3 4 5 5 6.6 9 5.3 7.1 4.9 7.3 8.6 6.7 6.6 5.4 5.9 6.4 5.6 7.8 12 —Corn: Extent and caus 14 eintsold Hell P ct. P.ct. P.ct. P.ct. P.ct. 13.0 7.3 1.5 1.0 0.5 13.9 3.0 1.8 .9 13.4 1.6 (1) 4 .2 87 4.6 (1) 1.7 .6 21 1.2 4 1.0 .3 20 8 1.3 4 6.9 1.7 21 1.2 4 1.0 .3 20 8 1.3 4 6.9 1.7 21 1.2 4 1.0 .3 20 8 1.3 4 6.9 1.7 21 1.2 4 1.0 .3 20 8 1.3 4 6.9 1.7 21 1.2 9 6.1 3.5 6.6 22 1 .9 .5 2.0 .4 10 8 7.3 1.4 1.7 3.5 5.4 3.3 6 7.3 1.5 5.4 2.1 .9 .5 2.0 .4 10 8 7.3 1.4 1.7 3.5 5.4 3.3 3 6 .7	Estimated amount sold monthly by five the state of the st	Estimated amount sold monthly by farmers July Aug Sept. Oct Nov. Dec. Jan.	Estimated amount sold monthly by farmers of Un July. Aug Sept. Oct Nov. Dec. Jan. Feb. 34 26 22 24 56 78 91 103 27 28 35 27 30 49 61 30 25 21 25 40 66 57 42 25 36 45 35 46 74 93 76 28 42 49 39 38 74 80 72 29 31 34 30 42 68 76 65 Per cent of year's sale 5.3 4.0 3.4 3.8 8.8 12 2 14.2 16.1 6 7 6.8 8.4 6.7 7.3 12.1 15.0 7.2 4 5 5.6 4.9 5 6 9.2 15.0 12 9 9.5 5 4 5 6 6.9 5.3 7.1 11.3 14.3 11.7 4.9 7.3 8.6 6.7 6.6 12.4 13.8 12.4 5.4 5.9 6.4 5.6 7.8 12.6 14.0 11.4 12 —Corn: Extent and causes of yearly crop 10 annigous Oct Held Held Held Control 13.0 7.3 1.5 1.0 0.5 1.6 0.7 25.8 23 4 1.6 (1) .2 2 3.4 1.8 12.1 20 8 1.3 4 .6 (2) .3 3.1 4.3 31. 20 8 1.3 4 .6 (1) .3 3.1 4.3 31. 20 8 1.3 4 .4 1.2 29 6.6 18.5 5.8 1.7 1.7 .4 1.7 1.1 313 18.5 5.8 1.7 1.7 .4 1.7 1.1 133 18.1 2.9 6 18.5 6.8 1.2 2.1 4.2 6.3 22 1 .9 .5 2.0 4 6.3 3.2 32 8 10 8 7.3 1.4 1.1 23 1.0 4.4 21.4 5.4 21.4 21.4 5.4 3.3 3.6 6.7 5.5 3.3 4.4 11 21.9 .5 2.0 4 6.3 3.2 32 8 10 8 7.3 1.4 1.1 23 1.0 4.4 21.4 5.4 21.4 1.5 3.3 6.6 1.2 3.3 3.6 5.4 3.3 1.6 4 1.7 1.7 1.1 1313 10 1.4 1.1 131 1.0 4.4 21.4 5.4 3.3 1.6 6.7 5.5 3.3 4.4 1.1 2.9 6 18.5 6.6 1.2 3.3 3.6 22 1 .9 .5 2.0 4 6.3 3.2 32 8 1.0 8 7.3 1.4 1.1 23 1.0 4.4 21.4 5.4 4.1 1.2 3.1 1.0 4.4 21.4 5.4 3.3 3.6 6.7 5.5 3.3 4.4 1.1 5.4 3.3 3.6 6.7 5.5 3.3 4.4 1.1 5.4 3.3 3.6 6.7 5.5 3.3 4.4 1.1 5.4 4.1 2.4 4.5 5.5 2.1 1.1 26.5 5.4 3.3 1.6 4.1 2.3 31.6 4.2 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 3.4 2.4 2.4 2.4 3.4 2.4 2.4 2.4 3.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4 2.4 2	Sept. Oct Nov. Dec. Jan. Feb. Mar.	Estimated amount sold monthly by farmers of United States (1) July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. 34 26 22 24 56 78 91 103 88 45 27 28 35 27 30 49 61 30 31 31 34 20 25 21 25 40 66 57 42 38 26 35 36 45 35 46 74 93 76 58 36 28 42 49 39 38 74 80 72 43 27 29 31 34 30 42 68 76 65 52 34 27 29 31 34 30 42 68 76 65 52 34 27 29 31 34 30 42 68 76 65 52 34 55 4 5 6 6.9 5 6 7.3 12.1 15.0 7.2 7.5 8.2 4.9 7.3 8.6 6.7 6.6 12.4 13.8 12.4 7.5 4.7 5.4 5.9 6.4 5.6 7.8 12.6 14.0 11.4 9.2 6.3 12.4 13.8 12.4 7.5 4.7 5.4 5.9 6.4 5.6 7.8 12.6 14.0 11.4 9.2 6.3 12.4 13.8 12.4 7.5 1.0 13.9 3.0 8.8 12.4 1.6 1.5 1.0 12.9 12.1 13.3 12.4 13.1 13.1 13.1 13.1 13.1 13.1 13.1 13	July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. 34 26 22 24 56 78 91 103 88 45 36 27 28 35 27 30 49 61 30 31 34 33 20 25 21 25 40 66 57 42 38 26 33 35 36 45 35 46 74 93 76 58 36 55 28 42 49 39 38 71 80 72 43 27 44 Per cent of year's sales. Per cent of year's sales. Per cent of year's sales. 5.3 4.0 3.4 3.8 8.8 12.2 14.2 16.1 13.7 7.1 5.6 6.7 6.6 6.5 7.5 8.2 8.0 4.0 8.0 4.0 8.0	Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. June July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. June July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. June July. July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. June July. July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. June July. July. July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. June July. July. July. Aug Sept. Oct Nov. Dec. Jan. Feb. Mar. Apr. May. June July. July. July. Aug July. July. July. Aug July. July. Aug July. July. July. Aug July.

Table 17.—Corn: Monthly and yearly receipts and shipments, 11 primary markets. 1909-10 to 1921-22.1

											,	
Year	Chi- cago.	Mıl- wau- kee.	Min- neap- olis.	Du- luth.	St. Louis.	To- ledo.	De- troit.	Kan- sas Cıty.	Peoria.	Oma- ha.	Indian- apolis	Total
1909-10 Receipts Shipments.	1,000 bush. 88,428 66,011	1,000 bush. 6,535 5,893	1,000 bush 6,564 5,047	1,000 bush. 883 943	1,000 bush. 22,913 16,383	1,000 bush. 4,001 1,840	1,000 bush 2,477 1,412	1,000 bush. 15,102 12,873	1,000 bush. 15,387 11,009	1,000 bush. (2) (2)	1,000 bush. (2) (2)	1,000 bush 162,280 121,411
Receipts Shipments. 1911-12:	113, 808 92, 652	7,895 7,625	8,948 5,370	1,697 1,697	23,766 15,422	6, 236 3, 290	3,860 1,930	16, 026 13, 395	16, 477 11, 141	(2) (2)	(2) (2)	198, 713 152, 522
Receipts Shipments. 1912-13:	108, 431 73, 940	9,410 6,506	5,423 3,264	12 12		4, 121 2, 037	2,857 1,888	19,646 14,971	19,041 14,292	20, 817 15, 404	13,687 1,947	228, 621 149, 753
Receipts Shipments. 1913-14:	131,792 94,311	11,613 7,887	6,258 4,374	492 492	'	2,996 1,885	2,757 1,615		11,202	1	3,637	252, 177 166, 006
Receipts Shipments.	84,838 57,528	15, 804 10, 727	10,710 8,776	878 362		4,560 2,314	2,835 1,636	27, 494 19, 192	14,723 6,651	37,108 33,040	14, 118 5, 183	230, 029 155, 528
Average, 1909– 1913: Receipts Shipments.	105, 459 75, 688	10, 251 7, 728	7, 581 5, 366	792 701	22,314 13,935	4,383 2,273	2,957 1,696	19, 052 14, 209	16,710 10,859			214, 364 149, 044
1914-15. Receipts Shipments. 1915-16:	116,348 80,256	19,609 16,985	14,699 11,997	3, 036 3, 036	18,626 10,206	4, 582 2, 594	4,058 3,021	16,396 11,914	16, 736 6, 831	24, 599 23, 117	15, 087 6, 498	253, 776 17 6 , 455
Receipts Shipments. 1916-17:	101, 325 62 , 148	9, 887 6, 9 4 3	5,661 3,927	(2) (2)	17,974 8,678	4,656 1,422	4, 726 3, 139	25, 837 22, 459	35,948 13,722	21, 496 15, 948		250, 300 149, 459
Receipts Shipments. 1917-18:	78, 723 40, 497	12,755 8,681	9, 550 7, 779	32 6	21,312 13,191	2,882 1,190	3,192 2,425	12, 743 8, 469	31,533 11,870	29, 820 25, 179	24, 421 14, 801	226, 963 134, 088
Receipts Shipments. 1918-19	98, 786 34, 540	12,374 7,006	16,715 9,636	177 170		2,609 1,160		31,366 24,4 81	17,062	, , , , , , , , , , , , , , , , , , ,	9, 206	294, 660 156, 463
Receipts Shipments. 1919-20:	61,366 32,019	6, 784 3, 697	6,621 4,773		19, 219 11, 956		1,633 626	16, 146 10, 345	10,530	1	7, 130	169, 123 102, 822
Receipts Shipments. 1920-21.	87, 641 37, 236	14, 652 7, 079	9,192 6,384	(2) 5	27, 595 15, 975	2,122 1,298	1,671 481	11,218 5,034	17,660		7,170	219, 763 116, 921
Receipts Shipments.	167, 241 113, 374	27, 455 21, 823	12,066 8,483	4, 834 3, 777	25, 924 17, 044	3,194 1,349	1,663 261	14, 137 9, 742	16,091 9,823	20,012 17,356	17,505 6,353	310, 122 209, 385
Average, 1914– 1920: Receipts Shipments.	101, 633 57, 153	14,788 10,316	10,643 7,568		22, 286 13, 311	3, 025 1, 366	3, 043 1, 533	18, 263 13, 206	25, 349	26, 731 22, 537	19, 469 8, 890	246, 387 149, 370
1921-22: Receipts Shipments.	186, 815 115, 700	25, 630 22, 168	15,920 12,048	14, 111 14, 034	33, 809 22, 713	3,994 1,795	2, 454 903	16, 063 10, 242	24, 116 18, 295	29, 583 26, 047	21,665 7,053	374, 160 250, 998

¹ Compiled from Chicago Daily Trade Bulletin.

² No report.

Table 17.—Corn: Monthly and yearly receipts and shipments, 11 primary markets, 1909-10 to 1921-22—Continued.

Month.	Chi- cago	Mil- wau- kee	Min- neap- olis.	Du- luth.	St Louis.	To- ledo.	De- troit.	Kan- sas City.	Peoria	Oma- ha.	Indian- apolis.	Total.
1921. November Receipts. Shipments. December	1,000 bush 6,598 5,037	1,000 bush. 607 1,762	1,000 bush 574 305	1,000 bush 265 1,260	1,000 bush 1,697 1,105	1,000 bush 190 50		1,000 bush 365 277	1,000 bush. 1,255 805	1,000 bush 619 639		1,000 bush 14,105 11,867
Receipts Shipments	19,618 7,294	3,890 1,475	2,095 1,227	1,508 234	3,905 1,740	495 167	297 87	2,062 1,372	2,835 1,827	3, 208 2, 518		42,639 18,919
1922. January Receipts Shipments	24, 713 12, 931	2,987 1,987	2, 253 1, 266	1,445	3, 944 2, 056	685 390		1,513 983	2, 576 2, 137	3, 992 2, 974		46, 537 25, 713
February: Receipts Shipments. March:	33, 348 19, 130	3,567 1,230	2,613 1,074	1,753 1	4, 293 2, 147	636 375	504 150	2,232 1,063	4, 080 3, 200	3, 051 2, 293	3, 481 804	59, 558 31, 467
Receipts. Shipments April	14, 288 13, 849	$2,626 \\ 2,015$		2, 171 37	2,748 2,466	373 170	276 111	2,029 861	1, 912 1, 505	3,358 3,184		33, 930 26, 385
Receipts Shipments May	5,256 $2,115$	960 2, 729	564 793	379 58	1, 154 1, 159	138 82	138 79	1,102 563	1, 019 540	1,807 2,277		13, 188 10, 702
Receipts. Shipments June.	8, 424 5, 750	2, 296 2, 623	993 1,446	869 5, 843	2,362 1,927	170 159	145 102	1,577 810	1,598 946	2,668 2,640		21, 965 22, 651
Receipts Shipments July	15, 876 4, 616		2,034 1,408	$2,253 \\ 2,975$	$3,148 \\ 2,472$	274 73	165 58	2,239 616		2,672 2,944	1,906 557	35, 281 20 598
Receipts Shipments. August	11,362 11,243	1, 217 1, 286	775 1,920	1,472 1,353	2, 931 2, 075	119 105	80 12	987 1,056		1,925 1,955	367	22,475 $22,212$
Receipts Shipments. September	11, 795 12, 211	999 660		732 1,551	2, 931 2, 185	261 31	171 2	978 1,443	1,546	2, 298	227	24, 708 22, 811
Receipts Shipments October:	19, 137 8, 952	1,995 1,068		872 49 8	2,509 1,617	356 107	182 32	428 660	1,758	1,167	615	16,747
Receipts Shipments.	16,400 12,572	1,651 1,639	475 174	397 224	2,187 1,764	297 86	108 55	551 538	2,528 2,006	1,752 1,158	2,305 710	28,651 20,926

Table 18.—Corn: Visible supply in United States, first of each month, 1909–10 to 1921–22.

							,					
Crop year.	Nov.	Dec.	Jan	Feb	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.
1909-10	1,000 bush. 2,653 3,510 1,703 2,689 6,206	1, 545 2, 054 1, 525	5,099 5,140 5,879	9,145 6,900 9,717	11,794 14,257 17,918	11, 166 15, 914 21, 494	7,490 7,270	4,685 5,699 2,549	7,482 8,204 11,479	7,100	6,724 1,823 2,612	6,339 3,101 7,308
Av., 1909–1913	3,352	2,088	7,342	10,406	15, 165	16,233	8,358	4,656	7,980	4,583	3,566	5,444
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	3,114 3,288 2,361 1,277 4,733 1,484 10,085	4,387 2,677 1,932 2,216 1,477	8,919 5,838 3,155	14,773 10,671 4,623 5,549 3,575	24,605 12,931 8,939 4,483 4,951	27,697 11,974 19,016 2,514 5,669	7,173 16,111 4,245 5,035	14, 505 2, 629 13, 038 2, 600 2, 740	6,870 3,277 11,487 4,038 4,364	5, 167 2, 841 9, 466 2, 461 6, 152	3,330 2,371 5,232 956 2,564	5,093 1,163 5,503 2,163 7,587
Av., 1914–1920	3,763	2,952	6,908	12,520	17,068	18,949	13,837	9,058	8,509	6,139	4,048	5, 245
1921-22	18,935	15,518	23, 279	26,729	40, 897	46,889	35,564	27, 046	29,337	19,509	7,314	12,206

¹ Compiled from the Chicago Daily Trade Bulletin.

yearly periods, all inspection points: total of all classes and subclasses under each grade 1 Table 19.—Corn: Summary in per cent of carloads graded by licensed inspectors for

					1917-	-18 TO	1921-	22.						
			I	Receipt	s.					Sh	ipmer	its.		
Crop year	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	S.G.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6	S.G.
1917-18 1918-19 1919-20 1920-21 1921-22 A verage, 1917-1921	P ct. 0.7 6 5 12 9 21 2 7.2	P. ct. 5 9 17 9 21. 7 27 4 46 0	P ct. 18 5 21 0 17 5 19 8 26 8	P ct. 17.3 21 4 25 6 19 5 10.0	P ct. 13 8 14 8 12 3 6 5 5 1	P ct. 13 5 8 3 4 0 2 9 3 7	P ct. 30 3 10 1 6 0 2 7 1 2	P. ct. 0.3 2 2 5 8 14 2 3 2 5 1	P ct. 7 2 27 6 38.5 57 9 74 7	P ct. 34 3 37 6 30 1 20 4 15 9	P ct. 19 8 15 0 15 1 4 4 2 4	P. ct. 8 1 5 3 4.9 .7 1 7	P ct 10 1 5 3 2 3 1 1 1 6	P. ct 20 2 7 0 3 3 1 3 5 6 5
		<u> </u>	NO.	VEMB	ER, 1	921, T	o oc	гове	R, 192	2.				
White Yellow Mixed	9 6 6 8 6 5	50 7 42 0 50 0	20 4 26 5 31 5	11 1 11 6 6 4	4.8 7 0 2.0	2 6 5. 2 1 8	0 8 .9 1 8	6 9 3 9 1 7	76 5 67 6 80 7	12 2 18 7 14 2	2 5 3 7 1 1	1 3 2 8 9	0 5 3 1 6	0 1 2 8

¹ Compiled from United States Department of Agriculture data.

Table 20.—Corn (including meal): International trade, calendar years 1909-1921 [The item maicena or maizena is included as "Corn and corn meal."]

GENERAL Note.—Substantially the international trade of the world. It should not be expected that the world export and import totals for any year will agree. Among sources of disagreement are those (1) Different periods of time covered in the "year" of the various countries, (2) imports received in year subsequent to year of export, (3) want of uniformity in classification of goods among countries, (4) different practices and varying degrees of failure in recording countries of origin and ultimate destination; (5) different practices of recording reexported goods, (6) opposite methods of treating free ports; (7) clerical errors, which, it may be assumed, are not infrequent.

The exports given are domestic exports, and the imports given are imports for consumption as far as it is feasible and consistent so to express the facts While there are some emvitable omissions, on the other hand there are some duplications because of reshipments that do not appear as such in official reports. For the United Kingdom import figures refer to imports for consumption, when available, otherwise total imports, less exports of "foreign and colomal merchandise." Figures for the United States include Alaska, Porto Rice, and Hawaii.

Rico, and Hawaii.

Country	Average,	1909–1913.	19	919	19	920	19)21
Country.	Imports.	Exports.	Imports	Exports.	Imports.	Exports.	Imports.	Exports
PRINCIPAL EXPORTING COUNTRIES. Argentina British South Africa. Bulgaria. Rumania Russia United States Uruguay	335	1,000 bushels. 115,749 4,115 9,307 38,966 30,034 45,054	1,000 bushels. 1 184 4 595	1,000 bushels. 97,851 13,582 (1) 26	1,000 bushels. 637 (1) 429 7,784	1,000 bushels 173,642 5,149 4,185 17,329	1,000 bushels. 23 (1) (1)	1,000 bushels. 111,603 20,133 696 30,280 132,186 209
PRINCIPAL IMPORTING COUNTRIES. Austria-Hungary. Belgium Canada Cuba. Denmark Egypt. France. Germany Italy. Mexico. Netherlands. Norway. Portugal Spain Sweden. Switzerland. United Kingdom Other countries.	13, 877 25, 801 10, 629 2, 746 11, 440 4, 401 18, 708 32, 160 14, 895 4, 404 29, 580 1, 674 9, 775 1, 476 3, 987 82, 9	268 8, 130 25 (1) 61 82 206 82 8, 750 5 44 26 1 96 9, 817	1,483 6,459 2,308 7,781 8,937 8,232 9,635 2,814 1,610 2,509 3,199 5,274 38,986 2,259	673 229 1 208 61 (1) 38 (1) 483 15 17 3,563	25, 124 10, 513 10, 793 3, 217 9, 822 9, 82 17, 609 12, 599 12, 596 2, 623 7, 719 1, 505 963 71, 057 3, 729	2,327 113 4 1 858 (¹) 4 37 188 41 (¹) 67 7,376	26,609 19,386 12,455 18,575 1,604 12,466 17,965 35,643 3,528 11,906 4,186 5,107 78,194 2,942	7,129 110 434 397 600 11 355 576
Total	270,991	271,026	111,491	132,761	198,736	232,551	230,843	306,640

WHEAT.

Table 21.—Wheat: Area and production in undermentioned countries.1

		Are	38.			Produ	ction.	
Country.	Average, 1909-1913.	1920	1921	1922 2	Average, 1909-1913.	1920	1921	1922 3
Northern Hemi- sphere								*
NORTH AMERICA Canada ³ United States ³ Mexico	1,000 acres 9,945 47,097 12,628	1,000 acres. 18,232 61,143	1,000 acres. 23,261 62,408	1,000 acres. 22,631 56,770	1,000 bushels. 197,119 690,108 9,995	1,000 bushels 263,189 833,027	1,000 bushels. 300, 858 794, 893 55, 089	1,000 bushels. 383,773 810,123 5,190
Total North American countries marked 3	57,042	79,375	85, 669	79, 401	887, 227	1,096,216	1, 095, 751	1,198,996
EUROPE. United Kingdom								
United Kingdom England and Wales and Wales and Scotland Ireland Norway Sweden and Denmark and Norway Sueden and Denmark and Spain and France and Spain and Switzerland and Germany and Austria. Czechoslovakia Hungary and Yugoslavia and Serbia and Greece and Bulgaria and Bulgaria and Lithuania Letvia. Esthonia Finland. Eussia, including	8 8, 284 8 874 868 82, 764 84, 376 81, 260	1, 875 54 50 40 360 180 180 27 12, 585 10, 254 1, 098 \$ 11, 199 3, 399 2, 183 5, 026 1, 790	1,976 65 43 41 360 220 180 343 27 13,300 10,386 8 11,779 3,561 110 3,561 11,556 2,697 3,699 988 2,361 6,149 2,093 179 46	1, 969 65 360 237 156 299 12, 701 10, 281 11, 540 103 3, 384 1, 529 2, 853 3, 637 890 1, 930 6, 548 2, 663	57, 528 2, 345 1, 608 307 7, 907 4, 916 4, 976 14, 585 8 317, 254 8, 683 8 183, 260 3, 314 8 132, 119 8 61, 075 8 156, 523 8 14, 775 7, 200 8 43, 725 8 86, 679 8 23, 343	53, 3.52 2, 0.80 1, 400 999 10, 528 7, 390 5, 993 10, 274 449 236, 929 138, 605 10, 376 8 141, 337 3, 584 82, 583 5, 424 26, 362 38, 294 43, 011 12, 194 29, 999 62, 571 22, 740	69,770 2,568 1,448 972 12,677 11,145 8,562 14,495 145,150 8,613 9 194,017 3,576 107,798 6,452 38,682 52,715 51,809 11,170 31,893 77,119 37,409 2,840 2,840 427 280	60, 800 5 760 8, 473 8, 466 5, 210 9, 870 5 520 235, 380 125, 908 6, 6, 000 163, 629 2, 363 69, 655 7, 150 30, 472 43, 945 42, 250 9, 533 27, 925 87, 820 42, 274
Ukraine and North- ern Caucausia	8 50,388				8 522, 794			
Total European countries marked ³	63, 854	56, 940	60, 202	59, 453	1, 208, 550	899, 384	1, 152, 832	943, 521
AFRICA. Morocco	3,371 1,193 1,311	1,997 3,096 1,319 1,190	1,469 2,816 1,500 1,458	1,853 3,103 939 1,518	33,071 6,063 34,000	21, 999 6, 798 5, 229 31, 711	17, 466 33, 764 10, 623 37, 011	9, 553 18, 233 3, 307 36, 648
Total African countries marked 3	5, 875	5,605	5,774	5, 560	73, 134	43, 738	81, 398	58, 188

¹ Sources: Official sources unless otherwise stated.
2 Figures for 1922 and 1921-22 compiled from reports received up to November 1, 1922.
3 Indicates countries reporting for all periods given either as listed or as part of some other country.
4 I year only.
5 Unofficial.
6 3-year average.
7 4-year average.
8 Old boundaries.

Table 21.—Wheat: Area and production in undermentioned countries 1—Continued.

		Aı	rea.		Production.					
Country.	Average, 1909-1913.	1920	1921	1922 2	Average, 1909-1913	1920	1921	1922 2		
ASIA.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 bushels. 35,000	1,000 bushels.	1,000 bushels.	1,000 bushels.		
Cyprus			198		2,286 16,000 349,919	3 8,000	² , 425 ⁸ , 000	^{3 4} 2, 400 ³ 12, 000		
British India 5 Native States 5 Russia (Asiatic)	9,764	23,373 6,576	20,240 5,543	22, 237 5, 997	84,139	318, 565 59, 323	210, 149 40, 208	308, 187 58, 165		
Japanese Empire: Japan Chosen Formosa	1,179 369 14	1,300	1,264		25, 274 4, 871 173	30,026	26, 921 10, 705	26, 495		
Total Asiatic countries marked 5	29,043	29,949	25, 783	28, 234	349,919	377,888	250,357	366, 352		
Total Northern Hemisphere countries marked 2,5	155, 814	171,869	177, 428	172,648	2, 518, 830	2, 417, 226	2, 580, 338	2, 566, 957		
Country.	Average, 1908–9 to 1912–13.	1919-20	1920–21	1921–22	Average, 1908-9 to 1912-13.	1919-20	1920-21	1921–22		
SOUTHERN HEMI- SPHERE. Peru Chile ⁵ . Uruguay ⁵	1,000 acres. 1,021 6 734	1,000 acres. 203 1,196 680	1,000 acres. 203 1,314 700	1,000 acres. 1,296 812	1,000 bushels. 20,316 67,314	1,000 bushels. 2,627 19,916 5,918	1,000 bushels. 2,615 23,190 7,768	1,000 bushels. 32,800 22,179 9,944		
Argentina 6 Union of S o u t h Africa 5 Australia 5. New Zealand 5	15, 799 7 751 6, 798 258	14, 957 800 6, 419 140	14,816 823 9,072 220	13, 927 839 9, 587 353	4,620 84,943 7,885	6,630 45,976 4,560	8,113 145,874 6,872	8,689 132,282 10,565		
Total Southern Hemisphere countries marked 5	25, 361	24, 192	26, 945	26, 814	282, 425	297,170	361, 571	364, 300		
World total countries marked 3,5	181, 175	196, 061	204, 373	199,462	2, 801, 255	2, 714, 396	2, 941, 909	2, 931, 257		
World total all countries reporting	249, 842	202, 793	209, 862	203,000	3, 576, 549	2,824,410	3, 078, 887	3, 035, 841		

Table 22.—Wheat: World production so far as reported, 1891-1922.

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1891 1892 1893 1894 1895 1896 1897	Bushels . 2, 432, 322, 000 2, 481, 805, 000 2, 559, 174, 000 2, 560, 557, 000 2, 593, 312, 000 2, 236, 268, 000 2, 236, 268, 000 2, 948, 305, 000	1899 1900 1901 1902 1903 1904 1905 1906	Bushels. 2,783,885,000 2,610,751,000 2,955,975,000 3,990,116,000 3,189,813,000 3,163,542,000 3,327,084,000 3,434,354,000	1907 1908 1909 1910 1911 1912 1913 1914	Bushels. 3, 133, 965, 000 3, 182, 105, 000 3, 581, 519, 000 3, 551, 795, 000 3, 551, 795, 000 4, 127, 437, 000 4, 127, 437, 000	1915 1916 1917 1918 1919 1920 1921 1922	Bushels. 4, 198, 782, 000 12, 608, 545, 000 12, 287, 889, 000 12, 303, 616, 000 12, 742, 339, 000 12, 742, 339, 000 13, 078, 887, 000 13, 078, 887, 000 13, 078, 887, 000

Official sources unless otherwise stated.
 Figures for 1922 and 1921-22 compiled from reports received up to November 1, 1922.
 Unofficial.
 Cyprus and Malta.
 Indicates countries reporting for all periods either as listed or as part of some other country.

^{6 4-}year average.
7 3-year average.

Table 25.—Wheat: Acreage, production, value, exports, etc., in the United States, 1849-1922.

[See headnote of Table 4]

	Aoro	Aver-		Aver-	T	pric	e pe	go ca r bus orth	heI,	Domestic exports,	Imports,	Per
Year.	Acre- age har- vested.	age yield per acre.	Produc- tion.	farm puce per bushel Dec. 1	Farm value Dec. 1.	Dec	em-	Fol	low- May	including flour, fiscal year beginning July 1	flour, fiscal year beginning July 1	cent of crop ex- ported.
						Low.	Hıgh.	Low	Hıgh.			
1849	1,000 acres	Bush.	1,000 bushels. 100,486	Cents.	1,000 dollars.	Cts	Cts.	Cts	Cts	Bushels. 7,535,901	Bushels.	P. ct 7. 5
1859 1866–1875 1876–1885 1886–1895	20, 470 34, 433 37, 500	12. 0 12. 4 12 7	173, 105 244, 672 425, 054 476, 788	105. 3 92. 6 67. 3	257, 587 391, 104 321, 071	97	105 104 80	110 101 75	125 114 86	17, 213, 133 50, 534, 641 127, 468, 781 143, 076, 110	1,565,791 1,749,128 711,806 992,754	30.0
1896	43, 916 46, 046 51, 007 <i>52, 589</i> 51, 387	12. 4 13. 3 15. 1 12. 1 11. 7	544, 193 610, 254 772, 163 636, 051 602, 708	71. 7 80 9 58. 2 58 6 62. 0	390, 346 493, 683 449, 022 372, 982 373, 578	745 92 623 64 691	70 693	683	793 673	145, 124, 972 217, 306, 005 222, 618, 420 186, 096, 762 215, 990, 073	1, 544, 242 2, 058, 938 1, 875, 173 320, 194 603, 101	26 7 35 6 28 8 29. 3 35. 8
1901 1902 1903 1904 1905	52, 473 49, 649 51, 632 47, 825 49, 389	15. 0 14. 6 12. 9 12. 5 14. 7	788, 638 724, 808 663, 923 596, 911 726, 819	62 6 63. 0 69 5 92. 4 74 6	493, 766 456, 851 461, 439 551, 788 542, 543	717 772 115	793 773 87 122 90	874	761 805 1012 1131 871	234, 772, 516 202, 905, 598 120, 727, 613 44, 112, 910 97, 609, 007	217, 682 3, 286, 189	29 8 28 0 18. 2 7. 4 13 4
1906	47, 800 45, 116 45, 970 44, 262 45, 681	15 8 14. 1 14. 0 15. 8 13. 9	637, 981 644, 656	66. 2 86 5 92. 2 98. 4 88. 3	594, 128	106½ 106	112 1193	1263 100		146, 700, 425 163, 043, 669 114, 268, 468 87, 364, 318 69, 311, 760	519, 785 456, 940 815, 617	25. 6 17. 7 12 5
1911 1912 1913 1914	49, 543 45, 814 50, 184 53, 541	12. 5 15. 9 15. 2 16. 6	763, 380	87. 4 76. 0 79. 9 98. 6	543, 063 555, 280 610, 122 878, 680	85	110 901 93 131	903	100	79, 689, 404 142, 879, 596 145, 590, 349 332, 464, 975	1, 282, 039 2, 383, 537	12. 8 19. 6 19. 1 37. 3
1915. 1916. 1917. 1918.	60, 469 52, 316 45, 089 59, 181	17. 0 12. 2 14. 1 15. 6	636, 318 636, 655	91 9 160, 3 200, 8 204, 2	942, 303 1, 019, 968 1, 278, 112 1, 881, 826	$\frac{155\frac{1}{2}}{220}$	220	258 220	$\frac{340}{220}$	243, 117, 026 203, 573, 928 132, 578, 633 287, 401, 579	24, 924, 985 31, 215, 213	23. 7 32 0 20. 8 31 2
1919 1920 ¹ 1921 1922 ²	75, 694 61, 143 63, 696 61, 230	12. 8 13. 6 12. 8 14. 0	967, 979 833, 027 814, 905 856, 211	214. 9 143. 7 92. 6 100. 9	2, 080, 056 1, 197, 263 754, 834 864, 139	118}	138	$\frac{142}{127}$	178	219, 864, 548 366, 077, 439 279, 406, 777	57, 398, 002	

¹ Acreage adjusted to census basis.

² Preliminary estimate.

WHEAT-Continued.

Table 23.—Wheat: Yield per acre in 29 foreign countries, 1899 to 1921.

10	aroook oj	ine Dep		control of	1 2 9 . 0		, 10,0		
Greece.	Bushels.					8.3	12 6 10 4 8.7		11.3
Ger- many.	Bushels. 28 4 27. 9 23. 5 23. 5 30. 3 29. 3	29.29 29.39 29.63 29.63	28.8	30 5 29.6 30.6 35.1	31.9	29.6 27.9 22.9	25.4 24.8 24.3	26.6	27 5
France.	Bushels. 21. 3 19. 2 18. 5 20. 2 22. 7	18.6 20.8 20.4 23.5 19.5	20.5	22. 0 15. 6 20. 3 20. 6 19. 8	19.7	18.9 20.1 16.5 13.0	20.5 16.1 18.8	17.8	24.5
Egypt	Bushels.	24.7		88888 0 0 0 1 2 4 4	26.1	25.7 25.1 27.2	25.55 26.68 36.68	25 5	25.4
Den- mark	Bushels. 42. 7 42. 0 30. 6 44. 9	42.4 40.3 41.2 43.0		44 0 49.9		43. 2 48. 6 39. 7 32. 8	45.2 46.3 41.1	42.5	50.9
Czecho- slovakia	Bushels.					26.3 19.0 15.9 12.2	12.9 18.2 16.8	17.3	26 4
Chule.	Bushels.	16.6		16.1 23.4 18.8 20.5 21.4	19.9	16.1 17.7 17.7 17.7	17.8		21.9
Canada.	Bushels. 13.1 25.2 25.3 25.3 17.2	16 6 21.7 20.3 15.3 17.0	18.9	21.5 16.1 20.8 20.4 21.0	20 0	15.7 26.0 17.1 15.8	10.9 10.1 14.4	15.4	12.9
Bulga- ria.	Bushels. 10.6	18.7 14.4 15.7 9.7 15.1		12.5 15.7 17.5 15.5 17.9	15.8	9.8 15.3 12.5 13.4	10.4 16.4 18.6	13 6	18.0
British India.	Bushels. 10.9 10.7 11.1 9.7 12.7	12.7 9.9 12.1 10.9	11.1	10.9 12.8 12.3 11.9	12.0	11. 0 11. 6 10. 7 11. 5	10 4 11.8 12.6	11 3	9.7
Belgium.	Bushels. 33.0 34.5 34.5 34.9	35.1 30.8 34.9 40.3	34.8	37.4 31.2 39.5 38.7 37.4	36.9	34.9	28 8 33 6	:	32.6
Austria.	Bushels. 19.0 15.6 16.7 19.0 17.7	19.5 19.6 20.3 18.3 21.0	18.7	19 9 19.2 19.6 22.4 19.9	20 2	22 9	12.9 13.8 14.7		17.1
Aus- tralia.	Bushels. 7.8 7.8 8.8 8.8 2.5	13.7 9.0 11.5 11.5 8.6	9.0	12.3 14.2 13.3 9.9	12, 5	11.5 2.7 14.8 13.6	12.1 9.5 7.2	10 6	16.0
Argen- tina	Bushels. J 13. 3 12. 7 9. 0 6. 9	12.1 12.4 9.6 11.1	11 3	10.4 9.1 10.1 10.6 11.3	10.3	7.0 10.9 11.2 5.0	10.3 10.1 14.3	9.8	11.5
Algeria.	Bushels 6.9 10.3 9.9 9.9 9.9	7.8 10.4 9.6 8.7	9.1	10.6 10.4 11.5 7.5 10.5	10.1	9.2 10.8 8.9 7.2	15.6 9.1 3.2	9.3	14.7
Year.	9	3	Average, 1899– 1908		Average, 1909- 1913			Average, 1914- 1920	

¹ Complied from United States Department of Agriculture office data. Data not available in cases of omission.

Uruguay.	Bushels. 8.5 5.4 10.5	11.7 6.5 11.0 12.1	::	12.6 9.4 11.0 6.7		6.5 4.6 10.4 6.9	13.4 8.2 8.7	8.9	11,1	
United King- dom	Bushels. 33. 8 29. 5 31. 9 33. 9 31. 0	27.8 33.5 35.0 33.0 4.8	32.6	34.9 31.4 32.5 30.0	32.3	33.8 32.7 30.0 31.6	34.4 29.2 28.7	31.6	35.4	
Switzer- land.	Bushels.			34.6 31.2 34.8		31.8 34.7 30.8 32.8	38.9 27.1 30.1	32.3	30.5	
Sweden.	Bushels. 24 5 22 0 22 0 22 0 23 5 23 5 23 5 27.6	25.7 26.8 31.4 28.9	26 9	32.3 32.3 32.3		30.9 30.7 28.4 21.1	23.5 27.3 29.0	27.2	34.9	
Spain.	Bushels. 10.8 11.4 14.9 14.6 14.6	10.6 10.4 15.1 11.0 12.9	12 6	15.4 14.6 15.3 11.4	13.7	12.0 13.9 15.0	13.3 13.5 13.5		13.8	
Russian Empire	Bushels. 9.1 8.1 7.9 11.0	11.3 10.2 8.0 8.5 9.3	9.4	11 8 10.8 7.0 10 3 12 4	10.4	9.9				
Russa	Bushels 8.3 8.0 7.6 10.9 10.9	11 4 9.4 7.0 7.5 8.4	8.9	12.5 10.6 6.6 9.5 13.0	10 4					mission.
Ru- manıa	Bushels 6 3 11.4 17.9 20.8 18.6	12 6 21.4 22 8 10.0	15 7	13 6 23.0 19 7 17.4 20.8	18.9	8.9 19.1 16.2	3.3 15.5 14.1		13.0	ı cases of o
Poland (Russian)	Bushels. 16.5 15.0 11.6 15.6 15.6	17.1 16.6 16 8 14 6 17.4	15 6	17.3 18.1 19.2 19.7 18.3	18 5		20.8		17.1	Data not available in cases of omission.
Norway.	Bushels.	24.2		26.1 24.5 22.6 27.7 27.0	25.6	22.5 23.8 22.6 21.6	26.6 26.1 25.0	24.5	23.5	Data not a
New Zealand.	Bushels. 33.7 32.8 32.4 25.0 39.5	25.23 26.33 27.33 29.33 29.33	32.6	25.9 26.0 26.6 34.7 28.1	30.6	22.22 22.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23 23.23	25.0 31.6 32.6	27.3	31.2	fice data.
Nether- lands.	Bushels. 23.6 29.6 31.3 33.6 31.1	33.0 32.1 35.3 39.7 36.8	32 9	32.7 32.9 38.8 39.2 35.6	36.1	39.0 43.5 35.7 32.7	36.7 35.8 37.9	37.5	49.4	iculture of
Japan	Bushels. 18.6 19.0 18.8 17.1 8.3	17.6 16.6 18.7 21.0 20.5	17.6	20.2 21.0 21.0 22.8 22.6	21.3	19 6 21.8 23.1 24.9	23.7 24.2 21.8	22.8	21.2	ent of Agr
Italy.	Bushels. 15.2 12.8 17.0	13.9 13.5 15.3 15.1		16.4 13.0 16.4 14.1 18.3	15.6	14.4 13.6 15.1 13.3	17.0 16.0 12.5	14.5	16.0	ates Department of Agriculture office data.
Year.	99. 10. 11. 12. 13.	ቷ	Average, 1899–1908	60 0 1 1 3 3 3	Average, 1909-1913	4 5 6 7	0.0	Average, 1914-1920	1	¹ Compiled from United State

WHEAT-Continued.

Table 24.—Wheat: Production in 29 foreign countries, 1899 to 1921.

b	1	x earoook oj	the De	pari	тень ој	Δy_i	ricuiu	e, 10	zz.		
	Greece	1,000 bushels.					7, 200	13,722 9,693 12,194		11,170	t only.
	Ger- many.	1,000 bushels. 141, 368 141, 137 97, 816 143, 314 130, 625	139, 802 135, 946 144, 753 127, 842 138, 440	133, 504	137, 999 141, 884 149, 411 160, 224 171, 075	152,119	145, 944 141, 676 110, 207 81, 791	85,865 79,701 82,858	104,006	97, 864	nd Alberts
	France.	1,000 bushels. 365, 449 325, 542 310, 913 327, 898 362, 968	299, 639 334, 838 328, 697 381, 223 316, 684	335, 385	359, 174 252, 963 322, 339 334, 333 319, 370	317, 636	282, 689 222, 776 204, 908 134, 575	225, 736 187, 094 236, 929	213, 530	322, 767	chewan a
	Egypt 3	1,000 bushels. 33,024 37,742 34,486 34,665 32,922	33, 229 31, 383 32, 486 32, 435 30, 000		32, 444 33, 213 36, 087 31, 335 38, 503	34, 316	33, 4S8 39, 905 37, 253 30, 414	32, 765 30, 137 31, 711	33,668	37, 011	6 Manitoba, Saskatchewan and Alberta only. 7 Bohemia and Monavia only.
121.1	Den- mark.	1,000 bushels. 4,054 4,135 4,135 4,531 4,460	4, 282 4, 067 4, 161 4, 343 4, 318	3, 933	3, 829 5, 463 5, 676 6, 692	5,341	5, 785 7, 978 6, 041 4, 296	6, 330 5, 923 7, 390	6,249	11, 207	6 Manito
Production in 29 foreign countries, 1899 to 1921.	Czecho- slovakia.²	1,000 bushels.					23, 541 17, 262 14, 363 10, 972	11, 549 7 15, 369 26, 362		40,673	
untries, 1	Chile	1,000 bushels.	18,915		17, 671 19, 682 18, 184 22, 468 23, 575	20, 316	16, 403 19, 000 20, 184 22, 498	23, 120 21, 591		25, 180	1 only.
reign co	Canada.	1,000 bushets. 4 34, 006 5 55, 572 4 62, 458 4 66, 187 6 56, 439	6 56, 045 6 84, 175 6 102, 256 92, 691 112, 434		166, 744 149, 990 230, 924 224, 159 231, 717	200,707	161, 280 393, 543 262, 781 233, 743	189, 075 193, 260 263, 189	242, 410	300,857	⁴ Manutoba and Saskatchewan only. ⁶ Census figures.
n in 29 fe	Bulga- na.	1,000 bushels. 21,629 35,551	42, 242 34, 949 39, 109 23, 545 36, 495		32, 071 42, 247 48, 295 44, 756 44, 812	42, 436	25, 980 36, 910 27, 764 33, 294	25, 341 34, 028 39, 705	31,865	42,510	ba and Sas figures.
roduction	British India.	1,000 bushels 255, 273 200, 000 264, 825 227, 380 297, 601	359, 936 283, 063, 319, 952 317, 061 228, 689	275, 378	285, 197 359, 647 375, 629 370, 515 367, 845	351,767	312, 032 376, 581 323, 008 379, 232	370, 421 280, 485 377, 888	345, 664	250, 469	4 Manito
v neat: F	Belgium	1,000 bushels. 13,788 14,143 14,521 12,350	13, 817 12, 401 12, 963 15, 835 13, 393		14, 603 12, 419 15, 745 15, 348 14, 769	14, 583	13, 973	6, 189 9, 895 10, 275		11,523	data.
TABLE 24.—W neat:	Austria.	1,000 bushels. 50, 208 . 40, 929 44, 027 49, 655 46, 198	53, 734 54, 531 58, 254 53, 287 62, 129	51, 295	58, 467 57, 589 58, 886 69, 638 59, 625	60,841	38,024	5, 159 5, 114 5, 424		6,452	Department of Agriculture data. only.
TABL	Aus- tralia.	1,000 bushels. b 41,237 41,237 49,877 39,777 12,768	76, 486 56, 254 70, 680 68, 515 46, 063	50, 438	65, 564 93, 263 98, 109 73, 894 94, 880	84,942	106, 601 25, 677 184, 709 157, 224	118,349 75,638 45,976	102,025	144, 191	ment of Agures.
	Argen- tina.	1,000 busheds. 104, 981 101, 654 74, 752 56, 379 103, 758	129, 671 150, 743 134, 930 155, 991 192, 487	120, 535	156, 162 131, 010 145, 981 166, 190 187, 391	157, 347	113, 904 168, 468 184, 158 80, 115	184,000 171,591 214,143	159, 483	169, 756	es Depart: sia only. acreage fign
	Algeria.	1,000 bushels. 22, 281 33, 593 32, 244 33, 896 34, 034	25, 484 25, 579 34, 323 31, 260 31, 260	30, 395	29, 739 35, 722 39, 375 27, 172 37, 661	33, 934	33, 241 34, 654 29, 151 23, 151	49,774 25,559 8,561	29, 156	41,480	a, and Sule ated from
	Year.	90 10 33 33	4 5 6 7 8	Average, 1899– 1908	9. 0 1. 3.	Average, 1909– 1913	5 5 7	9000	Average, 1914– 1920	1	¹ Compiled from United States ² Bohemia, Moravia, and Silesia ³ 1889 to 1907 estimated from acr

Uruguay.	1,000 bushets 7,164 6,891 3,664 7,604 5,240	7, 565 4, 606 6, 867 7, 430		8, 595 5, 972 8, 757 5, 461		5, 887 3, 596 9, 867 5, 390	13,060 6,890 5,948	7,231	7,768
United King- dom.	1,000 bushels. by 66,034 56,027 60,115 50,357	39, 115 61, 491 62, 529 58, 313 55, 629	56, 859	65, 188 58, 377 63, 340 59, 211 58, 483	60,920	64, 400 76, 244 61, 659 66, 350	96, 079 69, 324 56, 834	70, 127	73,800
Switzer- land.	1,000 bushels.	3, 527		3, 568 2, 756 3, 524 3, 178 3, 178 3, 546	3,314	3, 278 3, 957 3, 821 4, 556	7,905 3,521 3,584	4,375	3,574
Sweden.	1,000 bushels. 4,554 5,380 4,193 4,757 6,538	5, 135 5, 529 6, 650 6, 279 6, 938	5, 495	7,761 7,533 8,106 7,797 9,502	8,140	8, 906 9, 660 9, 038 6, 929	8,888 9,509 10,545	9,068	12, 566
Spain.	1,000 bushels. 97,707 100,702 136,904 133,522 128,978	95, 505 92, 070 140, 655 100, 330 119, 968	114, 634	144, 103 137, 448 148, 495 109, 783 112, 401	130, 446	116, 089 139, 298 152, 329 142, 674	135, 709 129, 250 138, 606	136, 279	143, 205
Russian Empire.	1,000 busheds. 454, 145 422, 994 427, 781 607, 370 621, 459	666, 752 636, 286 543, 481 570, 570 627, 698	557, 854	816, 165 836, 212 563, 485 801, 497 1, 027, 662	815,010	833, 639			
Russia Proper	1,000 bushets 314, 877 319, 193 319, 992 463, 259 454, 597	519, 966 451, 328 344, 766 340, 417 383, 017	391, 141	586, 819 552, 066 346, 372 472, 389 656, 324	522, 794				
Ru- mania	1,000 bushels. 26,064 56,663 72,386 76,220 73,700	53, 738 103, 328 113, 867 42, 237 57, 813	67, 302	56, 751 110, 761 93, 721 88, 924 83, 236	86,679	46, 296 89, 786 78, 520	18, 447 66, 060 70, 350		76, 977
Poland (Rus-sian).	1,000 bushels 21, 545 19, 722 14, 409 20, 349 19, 255	21, 241 20, 239 21, 152 18, 173 21, 182	19, 727	21, 194 22, 757 24, 129 24, 626 24, 011	23, 343		22, 156 22, 741		35, 576
Norway	1,000 bushels. 326 319 265 265	212 329 303 290 330		313 294 271 332 325	307	270 285 317 432	1,090 1,071 999	638	941
New Zealand	1,000 bushels. 13,485 8,852 6,733 4,174 7,693	8,140 9,411 7,013 5,782 5,743	7,703	9,049 9,008 8,551 7,490 5,343	7,888	5, 397 6, 854 7, 332 5, 243	7,022 6,568 4,560	6,139	6,872
Nether- lands.	1,000 bushels. 5,097 4,671 4,231 5,105 4,257	4,424 4,850 4,943 5,324 5,119	4,802	4, 157 4, 441 5, 511 5, 604 5, 164	4, 976	5,779 7,090 4,786 3,949	5, 431 6, 015 5, 766	5, 545	8,686
Japan	1,000 bushels 21, 198 21, 785 22, 398 20, 243 9, 600	19,754 18,346 20,282 22,795 22,587	19, 908	22, 966 23, 556 25, 647 26, 514 26, 757	25,088	22, 975 26, 773 30, 137 34, 745	32, 923 32, 562 28, 288	29, 772	26, 921
Italy.	1,000 bushels 137, 912 147, 341 181, 512 150, 648 203, 191	184, 819 176, 735 194, 372 195, 475 167, 917	183,822	190, 378 153, 403 192, 395 165, 720 214, 772	153, 334	169, 582 170, 541 176, 530 139, 999	183, 294 169, 769 141, 337	164, 436	188, 126
Year.	39.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	04- 205- 306- 37- 38-	Average, 1899-1908	39. 10. 11. 12. 13.	Average, 1909-1913	14 15 16 17	18. 19. 20.	Average, 1914-1920	11

¹ Compiled from United States Department of Agriculture data. Data not available in cases of omission.

Table 26.—Wheat: Harvested each month, per cent and millions of bushels.

Month.	Per cent.	Million bushels.	Month.	Per cent	Million bushels.
January. February. March. April. May. June. July.	1 3 7 4 15	187 38 113 262 150 562 1,312	August. Soptember. October. November December. Total	(1) (1) 3	937 76 (1) (1) 113 3,750

¹ Less than 1 per cent—practically none.

The proportion of the world wheat crop which is harvested each month has been estimated in the Burcaut of Statistics (Crop Estimates) to be approximately as above

"The proportion of the crop harvested in any month varies from year to year according as the senson is early or late, and also as the yield is relatively large or small in the different latitudes. The figures given are merely approximations; the percentages have been applied to the average yearly world production of the past five years, in round numbers, to obtain the quantities harvested.

"From the figures shown it appears that the world harvest season begins in December, when operations start in Austaila and South America, enlarge in January, and practically end in February. India then commences, and increases in activity through March and April. In April harvesting operations begin in such countries as Persia, Asia Minor, and Mexico. In May activity is lessened, for then the Indian harvest has been about completed and the harvest season is crossing the Meditori anean from North Africa to southern Europe, where harvests do not become general until June. In June, July, and August, about 75 per cent of the crop is harvested, the season progressing steadily northward during these months. By September harvest operations are nearly completed, Scotland, northern Russia and Siberia, and Canada having a little left over from August. Practically no harvesting of wheat is done in October, and very little in November."

This table is based on pre-war data; it is probable that these monthly ratios are practically correct at the present time

the present time

Table 27.—Wheat: Acreage, production, and total farm value, by States, 1930-1932.									
State.	Thou	sands of	acres	Produc	tion (thous bushels).	sands of	Totalval (thous	ue, basıs D ands of dol	ec 1 price lars).
	1920	1921	1922 1	1920	1921	1922 1	1920	1921	1922 1
Maine.	13	11	11	286	187	275	658	327	468
Vermont.	11	9	9	209	126	189	418	158	274
New York.	467	475	466	10,203	9,137	9,014	17,856	9,868	10,636
New Jersey.	74	81	77	1,184	1,539	1,540	2,427	1,739	1,694
Pennsylvania.	1,368	1,365	1,378	22,700	23,850	25,444	38,590	24,566	27,988
Delaware	116	113	109	1,972	1,300	1,766	3,372	1,274	1,907
	598	590	578	10,166	8,260	9,537	16,774	8,508	10,681
	892	847	830	11,150	8,301	10,375	20,070	9,629	12,658
	253	250	240	3,162	3,125	2,760	6,008	3,656	3,367
	680	600	612	7,956	4,500	5,508	16,708	6,480	7,491
South Carolina	107	118	165	1,177	1,298	1,320	3,001	2,700	2,072
Georgia	124	138	190	1,240	1,449	1,520	2,976	2,536	2,280
Ohio	2,395	2,434	2,544	30,430	30,185	35,641	50,209	32,600	41,703
Indiana	2,080	2,016	2,056	24,960	24,192	29,798	41,683	25,644	33,373
Illinois	2,990	2,909	3,196	45,492	46,822	55,422	73,242	46,822	59,312
Michigan	1,008	945	1,023	15,383	14,840	14,326	25, 844	15, 433	16, 175
	341	214	176	5,152	2,812	3,006	7, 934	2, 727	3, 096
	2,880	2,371	1,939	28,168	22,938	27,036	36, 618	22, 219	27, 306
	613	555	757	10,732	9,944	16,867	15, 024	8, 751	16, 699
	3,012	3,206	3,105	37,653	34,952	38,818	60, 245	34, 602	40, 759
North Dakota	8,916	9,500	8,740	80,244	80,750	123, 234	104, 317	68,638	110,911
South Dakota	2,930	2,845	2,989	26,920	25,980	40, 012	30, 958	22,603	36,811
Nebraska	3,593	3,967	4,177	60,480	59,875	59, 838	79, 229	49,696	57,445
Kansas	9,294	10,554	9,756	143,078	128,695	122, 887	186, 002	119,687	120,429
Kentucky	588	634	650	5,998	6,340	7, 475	11, 456	7,291	8,820
TennesseeAlabamaMississippiTexasOklahoma	424	450	472	4,028	4,500	4,484	7,855	5, 100	5,515
	20	20	23	192	210	218	442	321	349
	10	6	5	100	84	60	213	109	87
	1,583	2,081	1,249	20,579	20,810	9,992	35,396	20, 810	10,991
	3,380	3,786	3,300	54,080	47,325	31,350	73,008	40, 700	30,723
Arkansas	126	103	86	1,197	958	1,118	2,274	958	1,185
	2,787	2,715	2,699	28,690	33,430	40,370	36,724	28,416	35,929
	196	193	180	3,920	3,316	3,060	5,292	2,620	2,509
	1,405	1,719	1,620	25,273	23,239	21,776	34,118	17,662	19,380
New MexicoArizonaUtahNevada	195	227	105	3,566	3,088	885	4,993	3,242	1,062
	36	40	49	864	840	1,274	2,264	1,050	1,465
	273	276	294	5,331	6,299	5,682	8,156	4,725	5,113
	19	21	21	424	493	550	763	641	660
Idaho	1,100	1,123	1,123	24,600	26, 952	24, 275	30,750	19,405	21,847
	2,459	2,550	2,426	41,665	58, 245	32, 444	56,248	50,091	33,742
	1,073	1,082	1,093	22,427	25, 364	19, 744	29,155	21,560	21,323
	714	557	712	9,996	8, 355	15, 308	17,993	8,940	17,601
United States	61,143	63,696	61,230	833 027	814 905	256 911	1 107 969	781 094	001 190

Table 28.—Winter and spring wheat: Acreage (sown and harvested), production, and farm value December 1, by States in 1922 (preliminary) and United States totals, 1900-1922.

1900-1922	- 		Wint	er wheat.	1		1	Sı	oring whe	at.1	
State.	Acreage sown in preced- ing fall	Acteage har- vested.	Average yield per acre.	Produc-	Average farm. price Dec 1	Total farm value Dec. 1.	Acre-	Average yield per acre	Produc-	Average farm value Dec. 1	Total farm value Dec. 1
MeVtN. YN. JPa	1,000 acres. 456 79 1,392	1,000 acres. 445 77 1,364	Bush. 19.5 20.0 18.5	1,000 bushels. 8,678 1,540 25,234	Cents 118 110 110	1,000 dollars. 10,240 1,694 27,757	1,000 acres. 11 9 21	Bush 25. 0 21. 0 16. 0	1,000 bushels. 275 189 336	Cents. 170 145 118	1,000 dollars. 468 274 396
Del	112 590 843 244 621	109 578 830 240 612	16. 2 16. 5 12. 5 11. 5 9. 0	1,766 9,537 10,375 2,760 5,508	108 112 122 122 136	1, 907 10, 681 12, 658 3, 367 7, 491					
S. C. Ga Ohio Ind	183 209 2,567 2,136 3,189	165 190 2,516 2,052 3,030	8 0 8 0 14.0 14.5 17 5	1,320 1,520 35,224 29,754 53,025	157 150 117 112 107	2, 072 2, 280 41, 212 33, 324 56, 737	28 4 166	15. 0 11 0 14. 5	420 44 2,407	117 112 107	491 49 2, 575
Mich Wis Mınn Iowa Mo.	1, 035 110 95 703 3, 229	1,014 95 89 689 3,100	14. 0 18. 6 19 0 23 0 12. 5	14, 196 1, 767 1, 691 15, 847 38, 750	115 103 101 99 105	16, 325 1, 820 1, 708 15, 689 40, 688	9 81 1,850 68 5	14. 5 15. 3 13. 7 15. 0 13. 5	130 1,239 25,345 1,020 68	115 103 101 99 105	150 1, 276 25, 598 1, 010 71
N. Dak S. Dak Nebr Kans Ky	102 4, 149 12, 284 670	96 3,942 9,741 650	19. 0 14. 5 12. 6 11. 5	1, 824 57, 159 122, 737 7, 475	92 96 98 118	1, 678 54, 873 120, 282 8, 820	8, 740 2, 893 235 15	14.1 13.2 11.4 10.0	123, 234 38, 188 2, 679 150	90 92 96 98	116, 911 35, 133 2, 572 147
Tenn Ala Miss Tex Okla	492 25 6 1,784 3,929	472 23 5 1, 249 3, 300	9.5 9.5 12.0 8.0 9.5	4,484 218 60 9,992 31,350	123 160 145 110 98	5,515 349 87 10,991 30,723					
Ark Mont Wyo Colo		86 386 38 1,262	13. 0 16. 5 17. 0 13. 0	1,118 6,369 646 16,406	106 89 82 89	1,185 5,668 530 14,601	2,313 142 358	14.7 17 0 15.0	34,001 2,414 5,370	89 82 89	30, 261 1, 979 4, 779
N. MexArizUtahNev	112 54 162 3	45 49 159 3	5. 0 26. 0 14. 0 19. 7	225 1, 274 2, 226 59	120 115 90 120	270 1,465 2,003 71	135 18	25. 6 27 3	3,456 491	90 120	792 3,110 589
Idaho	465 1,533 879 774	1,426 844 712	19. 5 16. 3 20. 0 21. 5	8,658 23,244 16,880 15,308	90 104 108 115	7,792 24,174 18,230 17,604	1,000 249	23 0 9.2 11.5	15,617 9,200 2,864	90 104 108	14, 055 9, 568 3, 093
U.S	47,611	42, 127	13. 9	586, 204	104.8	614, 561	19, 103	14.1	270,007	92.4	249, 578
1921	44, 895 44, 861 51, 483 42, 301	43, 414 40, 016 50, 494 37, 130	13 8 15. 3 15. 1 15. 2	600, 316 610, 597 760, 377 565, 099	95. 1 148. 6 210. 5 206. 3	571, 044 907, 291 1, 600, 805 1, 165, 995	20, 282 21, 127 25, 200 22, 051	10 6 10.5 8 2 16 2	214, 589 222, 430 207, 602 356, 339	85. 6 130. 4 230. 9 200. 9	183, 790 289, 972 479, 251 715, 831
1917 1916 1915 1914 1913	40, 534 39, 203 42, 881 37, 128 33, 618	27, 257 34, 709 41, 308 36, 008 31, 699	15. 1 13. 8 16. 3 19. 0 16. 5	412, 901 480, 553 673, 947 684, 990 523, 561	202. 8 162 7 94. 7 98. 6 82. 9	837, 237 781, 906 638, 149 675, 623 433, 995	17. 832 17, 607 19, 161 17, 533 18, 485	12 5 8. 8 18. 4 11. 8 13. 0	223, 754 155, 765 351, 854 206, 027 239, 819	197. 0 152. 8 86. 4 98. 6 73. 4	440, 875 238, 062 304, 154 203, 057 176, 127
1912 1911 1910 1905–1909 1900–1904	33, 215 32, 648 31, 656 31, 066	26, 571 29, 162 27, 329 28, 762 31, 832	15. 1 14. 8 15. 9 15. 4 13. 6	399, 919 430, 656 434, 142 443, 728 432, 084	80. 9 88. 0 88. 1 85. 4 71. 8	323, 572 379, 151 382, 318 379, 005 310, 054	19, 243 20, 381 18, 352 17, 745 18, 761	17. 2 9. 4 11. 0 14. 1 13. 0	330, 348 190, 682 200, 979 249, 605 243, 314	70. 1 86. 0 88. 9 80. 1 64. 9	231,708 163,912 178,733 199,998 157,965
		,	- '								

Table 29 — Wheat: Production and distribution in the United States, 1897-1922

	Stocks	Old		Crop.		Total	Stock on	Stocks in mills	Shipped
Year.	in mills and elevators July 1.	stock on farms July I	Quan- tity.	Weight per bushel.	Quality.	sup-	Mar 1 fol- lowing.	and elevators Mar. 1.	out of county where grown.
1897–1901 1902–1906	1,000 bushels.	1,000 bushels. 42,960 42,048	1,000 bushels. 681,963 693,847	57.2	Per cent. 87.0	1,000 bushels 724,923 735,895	1,000 bushels. 175,055 159,665	1,000 bushels.	1,000 bushels 365,058 396,532
1907 1908 1909 1910 1911		55,438 33,188 14,171 36,725 34,071	637,981 644,656 700,434 635,121 621,338	58. 2 58 3 57. 9 58 5 57. 8	89. 9 89. 1 90. 4 93. 1 88. 3	693,419 677,844 714,605 671,846 655,409	148,39 2 137,628 163,371 162,705 122,041	98,597 95,710	377,999 392,441 428,262 352,906 348,739
1912 1913 1914 1915 1916		23,876 35,515 32,236 28,972 74,731	730, 267 763, 380 891, 017 1,025,801 636, 318	58 3 58. 7 58. 0 57 9 57 1	90. 0 93. 2 89. 7 88. 4 87. 0	754,143 798,895 923,253 1,054,773 711,049	156,471 151,795 152,903 244,448 100,650	118,400 93,627 85,955 155,027 89,173	449,881 411,733 541,198 633,380 361,088
1917. 1918. 1919. 1920. 1921. 1922.	19,672 37,304	15,611 8,063 19,261 49,546 56,707 32,359	636,655 921,438 967,979 833,027 814,905 856,211	58 5 58 8 56.3 57.4 56.6 57 7	92. 4 93. 1 82. 1 88 9 85. 8 87. 6	652, 166 929, 501 987, 240 882, 573 871, 612 888, 570	107,745 128,703 169,904 217,037 124,253 153,134	66,138 107,037 123,233 87,075 75,071 91,546	325,500 541,666 591,552 491,035 502,470 574,452

¹ Crop and carry-over on farms only.

Table 30.—Winter and spring wheat: Condition of crop, United States, on 1st of months named, and per cent of winter wheat area abandoned, 1900–1922.

	Winter wheat. Spring wheat.									
Year.	December of pre- vious year	Area aban- doned.	April.	May.	June.	When har- vested.	June.	July.	August.	When har- vested.
1900–1904 1905–1909	P. ct. 93. 4 89. 5	P. ct.	P. ct. 85.3 88.8	P. ct. 85.7 87.8	P. ct. 81.3 82.5	P. ct. 80.7 81.9	P. ct. 92. 8 93. 2	P. ct. 83 9 90. 3	P. ct. 78. 2 85. 6	P. ct. 73. 2 82 8
1910	95. 8 82. 5 86. 6 93. 2 97. 2	13.7 10.7 20.1 4.7 3.1	80. 8 83. 3 80. 6 91. 6 95. 6	82.1 86.1 79.7 91.9 95.9	80. 0 80. 4 74. 3 83. 5 92. 7	81.5 76 8 73.3 81 6 94.1	92. 8 94. 6 95. 8 93. 5 95. 5	61. 6 73. 8 89. 3 73. 8 92. 1	61. 0 59. 8 90. 4 74. 1 75. 5	63. 1 56. 7 90. 8 75. 3 68. 0
1915	88. 3 87. 7 85. 7 79. 3 98. 5	2.7 11.4 31.0 13.7 1.1	88. 8 78. 3 63. 4 78. 6 99. 8	92.9 82.4 73.2 86.4 100.5	85. 8 73. 2 70. 9 83. 8 94. 9	84. 4 75. 7 75. 9 79. 5 89. 0	94. 9 88. 2 91. 6 95. 2 91. 2	93.3 89.0 83.6 86.1 80.9	93. 4 63. 4 68 7 79. 6 53. 9	94 6 48.6 71.2 82.1 48 5
1920 1921 1922 1923	85. 2 87. 9 76. 0 79. 5	10.8 4.6 14.5	75. 6 91. 0 78. 4	79. 1 88. 8 83. 5	78. 2 77. 9 81. 9	79.7 77.2 77.0	89. 1 93. 4 90. 7	88. 0 80. 8 83. 7	73. 4 66. 6 80. 4	64. 1 62. 5 80. 1

² Preliminary estimate.

Table 31.—Winter wheat: Forecast of production, monthly, with preliminary and final estimates.

Year.	May.	June.	July.	August production estimate.	Final estimate
1912 1913 1914 1915 1916	513, 571 630, 319 692, 924 499, 280	1,000 bush. 363,000 492,000 639,541 675,500 469,066	1,000 bush. 358,000 483,000 652,975 668,291 489,030	1,000 bush. 389, 942 510, 519 675, 115 656, 866 454, 706	1,000 bush 399, 919 523, 561 684, 990 673, 947 480, 553
1917 1918 1919 1920 1921	572, 539 899, 915 481, 647 629, 287	373, 032 586, 915 892, 822 503, 996 578, 342	402, 378 557, 339 838, 582 518, 245 573, 930	417, 347 555, 725 715, 301 532, 641 543, 879	412, 901 565, 099 760, 377 610, 597 600, 316
Average	565, 931 584, 793	557, 421 607, 333	554, 177 569, 276	545, 204 541, 809	571, 226

 $\begin{array}{ll} {\rm Table} \ \ {\bf 32.--} Spring \ wheat. \ \ Forecast \ of \ production, \ monthly, \ with \ preliminary \ and \ final \\ estimates. \end{array}$

Year	June.	July.	August.	September.	October production estimate.	Final estimate.
1912 1913 1914 1915 1916 1917 1918 1919 1919 1920	1,000 bush. 265, 000 252, 000 262, 135 273, 513 245, 801 282, 813 343, 987 343, 181 276, 547 251, 289	1,000 bush. 271, 000 218, 000 274, 003 294, 977 269, 517 275, 970 333, 591 322, 096 291, 355 235, 482	1,000 bush. 290,000 233,000 236,120 307,250 199,329 236,019 322,205 225,080 261,506 212,946	1,000 bush. 300,000 243,000 221,482 322,463 156,351 250,359 342,855 208,049 237,374 209,979	1,000 bush. 330, 391 242, 714 216, 835 345, 163 152, 851 242, 450 363, 195 203, 170 218, 007 196, 776	1,000 bush. 330,348 239,819 206,027 351,854 155,765 223,754 356,339 207,602 222,430 214,589
Average	279, 627	278, 599	252, 346	249, 191	251, 155	250, 853
1922	247, 175	247,660	263, 392	276, 665	268, 314	1 270, 007

¹ Preliminary estimate.

Table 33.—Wheat: Yield per acre (winter), in principal producing States, 1899-1922.1

					- //		1 1				
Year.	Kan- sas.	Ne- braska.	Ilh- nois.	Mis- souri.	Okla- homa.	Ohio.	In- diana	Wash- ington.	Penn- syl- vania.	Texas.	Michi- gan.
1899	Bush 9 8 17 7 18 8 10 4 14 0	Bush. 11 4 13 3 19 0 23 2 16 4	Bush. 10 0 13 0 17 6 17 9 8 4	Bush. 9 9 12 5 15 9 19 9 8 7	Bush 13 3 19 0 15 8 11 3 14 5	Bush. 6 0 15 3 17 1 13 7	Bush 9 8 5 3 15 8 16 0 10 0	Bush. 26 2 27 2 33 7 25 7 20 0	Bush 13 6 13 5 17.1 15 8 15.6	Bush 11 1 18.4 8 9 9.0 13.4	Bush. 7.6 11 1 17 7 15 5
1904 1905 1906 1907 1908	12 3 13 9 15 3 11 3 12 8	14 4 20 4 23 2 19 0 17 8	13 8 16 0 19 5 18 0 13 0	11 7 12 4 14.8 13 2 10 0	12.1 8 5 13 7 9 0 11 6	11 5 17 9 20 4 16 3 16 0	9 2 18.3 20 7 14 4 16 6	28 0 22 0 24 0 29 5 24 5	14 1 17.1 17 7 18.6 18 5	10.7 8.9 11.5 7.4 11 0	9.8 18.5 13.1 14.5 18.0
Average, 1899- 1908	13 6	17.8	14 7	12.9	12 9	14 8	13 6	26 1	16 1	11.0	13 4
1909	14 5 14 2 10 8 15 5 13 0	19 4 16 5 13 8 18 0 18 6	17 4 15 0 16 0 8 3 18 7	14 7 13 8 15 7 12 5 17 1	12 8 16 3 8 0 12 8 10 0	15 9 16 2 16 0 8 0 18 0	15 3 15 6 14.7 8 0 18 5	25 8 20 5 27 3 27.6 27 0	17 0 17 8 13 5 18 0 17 0	9 1 15.0 9.4 15 0 17.5	18 8 18 0 18 0 10 0 15 3
Average, 1909- 1913	13 6	17 3	15 1	14 8	12 0	14 8	14 4	25 6	16 7	13 2	16 0
1914 1915 1916 1917	20 5 12.5 12 0 12.2	19.3 18.5 20.0 12.0	18 5 19 0 11 0 18 5	17 0 12 3 8 5 15,3	19 0 11.6 9 7 11 5	18 5 20 3 13 5 22 0	17 4 17 2 12.0 18.5	26. 5 27. 6 26. 5 21. 5	18. 1 18. 5 19 0 17. 5	13. 0 15. 5 11. 0 12. 0	19 7 21 3 16 6 18 0
1918 1919 1920	14.1 13 8 15 4	11 1 14 8 17 4	21.5 17.5 15 1	17.2 13.5 12.5	12.6 14 0 16 0	19 0 20 0 12 7	21 0 15 0 12 0	$23.5 \\ 21.1 \\ 24.0$	17 0 17.5 16.6	10.0 16.5 13.0	14.0 20 3 15 6
Average, 1914- 1920	14.4	16. 2	17.3	13.8	13.5	18.0	16 2	24 4	17 7	13 0	17.9
1921 1922	$\begin{array}{c c} \hline 12 & 2 \\ 12 & 6 \\ \hline \end{array}$	15.3 14.5	16 2 17.5	10 9 12.5	12 5 9 5	12 4 14 0	12.0 14 5	27 9 16 3	17 5 18. 5	10.0 8 0	16 0 14 0
					1	1 0	110	10 5	10.0		-110
Year.	Ore- gon	Vır- gınıa.	Mary- land.	Mon- tana.	Ken- tucky.	Torro	Idaho.	Colo- rado.	Cali- forma.	New York.	All others.
1899 1900 1901 1901 1902 1903	Ore-gon Bush. 21.2 17.3 23.3 22.2 19.0 21.4	Virginia. Bush. 8 4 11 9 10.9 5.7 8.7 10.2	Mary-land. Bush. 14 1 19 5 17.2 14.7 12.5 13.4	Mon-tana. Bush.	Bush. 9 1 13 0 12.1 9 3 8 4 11.4	Bush. 18.1 21.7 22.4 18.5 15.9	Bush. 24.1 20.8 21.2 22.1 20.9 22.3	Colorado. Bush.	California. Bush. 14.1 10.3 13.0 10.9 11.2 10.8	New York. Bush. 18.5 17.7 13.1 16.8 17.8	All others. Bush. 8 8 11 1 10.9 7.6 9 1 11.2
1899	Ore-gon Bush. 21.2 17.3 23.3 22.2 19.0	Virginia. Bush. 8 4 11 9 10.9 5.7 8.7	Mary- land. Bush. 14 1 19 5 17.2 14.7 12.5	Montana.	Bush. 9 1 13 0 12.1 9 3 8 4	Bush. 18.1 21.7 22.4 18.5 15.9	Bush. 24.1 20.8 21.2 22.1 20.9	Colorado. Bush.	Califorma. Bush. 14.1 10.3 13.0 10.9 11.2	New York. Bush. 18.5 17.7 13.1 16.8 17.8	All others. Bush. 8 8 11 1 10.9 7.6 9 1
1899	Ore-gon Bush. 21. 2 17. 3 23 3 22 2 19. 0 21. 4 21 0 22 3 25. 5 23 2 21 6	Virginia. Bush. 8 4 11 9 10.9 5.7 8.7 10.2 11.4 12.5 11.4	Mary-land. Bush. 14 1 19 5 17.2 14.7 12.5 13.4 16.3 16.0 18.4 16 4	Montana. Bush.	Rentucky. Bush. 9 1 13 0 12.1 9 3 8 4 11.4 11.3 14 1 12 0 11.6	Bush. 18.1 21.7 22.4 18.5 15.9 15.4 20.1 22.3 18.4 20.9	Bush. 24. 1 20. 8 21. 2 22. 1 20. 9 22. 3 32. 0 25. 3 26. 0 30. 0	Colorado. Bush.	California. Bush. 14.1 10.3 13.0 10.9 11.2 10.8 9.3 17.1 15.0	New York. Bush. 18.5 17.7 13.1 16.8 17.8 11.3 21.0 20.0 17.3 17.5	All others. 8 8 11 1 10.9 7.6 6 9 1 11.2 11.0 9 11 3 10 4
1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. Average, 1899- 1908. 1909. 1910. 1911. 1911.	Ore-gon Bush. 21. 2 17. 3 23. 2 19. 0 21. 4 21. 0 22. 3 25. 5 23. 2	Virginia. Bush. 8 4 11 9 10.9 5.7 8.7 10.2 11.4 12.5 12.5	Mary- land. Bush. 14 1 19 5 17.2 14.7 12.5 13.4 16.3 16.0 18.4 16 4	Montana.	Bush. 9 1 13 0 12.1 1 9 3 8 4 11.4 1 12.0 0 11.6	Bush. 18.1 21.7 22.4 18.5 15.9 15.4 20.1 22.3 18.4 20.9	Bush. 24.1 20.8 21.2 22.1 20.9 22.3 32.0 25.3 26.0 30.0	Colorado. Bush.	California. Bush. 14.1 10.3 13.0 10.9 11.2 10.8 9.3 17.1 15.0 5.2	New York. Bush. 18.5 17.7 13.1 16.8 17.8 21.0 20.0 17.3 17.5	All others. **Bush.** 8 8 11 1 10.9 7.6 9 1 11.2 11.0 11 7 10.9 11 3
1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 Average, 1899 1908 1909 1910 1911 1912 1913 Average, 1909 4	Ore-gon Bush. 21.2 17.3 22.2 19.0 21.4 21.0 22.3 25.5 23.2 21.6 21.0 19.1 22.6 22.2 26.8 21.4	Virginia. 8 4 11 9 10.9 5.7 8.7 10.2 11.4 12.5 11.4 10.4 11.2 12.8 12.0 11 6	Mary-land. Bush. 14 1 19 5 17.2 14.7 12.5 13.4 16.3 16.0 18.4 16 4 15 9 14 5 17 4 15 5	Mon-tana. Bush. 32 6 22 0 31 7 24 5	Bush. 9 1 1 13 0 12.1 9 3 8 4 11.4 11.2 0 11.6 11 2 8 12 8 12 7 10 0	Bush. 18.1 21 7 22.4 18.5 15.9 15 4 20 1 22.3 18.4 20 9 19 4 21.6 21.2 19 7 23 0	Bush. 24.1 20.8 21.2 22.1 20.9 32.0 25.3 26.0 30.0 24.5	Colorado. Bush.	Call- forma. Bush. 14.1 10.3 13.0 10.9 11.2 10.8 9.3 17.1 15.0 5.2 11 7 14 0 18 0 18 0 17 0 14 0	New York. Bush. 18.5 17.7 13.7 16.8 17.8 11.3 21.0 20.0 17.3 17.5 17.1 16.0 23.7 19.5 16.0	All others. Bush. 8 8 11 11 10.9 7.6 6 9 1 11.2 11.0 9 11 3 11.2 11.4 3 13.0 12 8
1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. Average, 1899- 1908. 1909. 1910. 1911. 1911.	Ore-gon Bush. 21. 2 17. 3 23. 3 22. 2 19. 0 21. 4 21. 0 22. 3 25. 5 23. 2 21. 6 21. 0 19. 1 22. 2 26. 8 21. 4	Virginia. Bush. 8 4 11 9 10.9 5.7 8.7 10.2 11.4 12.5 11.4 12.5 11.4 12.5 11.6 11.6 11.6 11.6 11.6 11.6 11.6 11	Mary-land. Bush. 14 1 19 5 17.2 14.7 12.5 13.4 16.0 18.4 15 9 14 5 17 4 15 5 15 0 13 3	Mon- tana. Bush. 32 6 22 0 31 7 24 5 25 6	Kentucky. Bush. 9 1 13 0 12.1 9 3 8 4 11.4 11.2 0 11.6 11 2 11.8 12 8 12 7 10 0 13 6	Bush. 18.1 21.7 21.4 18.5 15.9 15.4 20.1 22.3 18.4 20.9 19.4 21.6 21.2 21.9 23.0 23.4	Bush. 24. 1 20. 8 21. 2 22 1 20. 9 22. 3 32. 0 0 25. 3 26. 0 30. 0 24. 5 28. 9 23. 7 21. 5 28. 7 27. 4	Colorado. Bush.	Call- forma. Bush. 14.1 10.3 13.0 10.9 11.2 10.8 9.3 17.1 15.0 5.2 11 7 14 0 18 0 17 0 14.0	New York. Bush. 18.5 17.7 13.1 16 8 17.8 17.3 21 0 20 0 20 0 17.3 17 5 17 1 21.0 23 7 19.5 16 0 20 0	All others. 8 8 11 11.0 9 7.6 9 1 11.2 11.0 9 11 3 10 4 12 5 14 3 13.0 12 8 14.0
1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. Average, 1899- 1909. 1911. 1911. 1913. Average, 1909- 1913. 1914. 1915. 1916. 1917. 1918.	Ore-gon Bush. 21. 2 17. 3 23 3 22 2 19. 0 21. 4 21. 0 22 3 25. 5 2 21 6 21. 0 19 1 22 2 26. 8 21 4 22 1 22 0 24. 0 23 0 23 0	Virgima. **Bush.** 8	Mary-land. Bush. 14 1 19 5 17.2 14.7 12.5 13.4 16.3 16.0 18.4 15 9 14 5 17 4 15 5 13 3 15 1 21.5	Mon-tana. Bush. 32 6 22 0 31 7 24 5 25 6 27 3 23 0 27 0 21 5	Kentucky. Bush. 9 1 13 00 12.1 9 3 8 4 11.4 11.2 11.2 11.8 12.7 10.6 12.2 16.5 11 0 9 0	Bush. 18. 1 21. 7 22. 4 18. 5 15. 9 15. 4 20. 1 20. 1 22. 3 18. 4 20. 9 19. 4 21. 6 21. 2 23. 4 21. 8 21. 6 21. 5 18. 5	Idaho.	Colorado. Bush.	Call- forma. Bush. 14.1 10.3 13.0 10.9 11.2 10.8 9.3 17.1 15.0 5.2 11 7 14 0 18 0 17 0 14 0 16 2 17.0 16 0 16.0	New York. Bush. 18.5 17.7 13.1 16.8 17.8 17.3 17.5 17.1 21.0 20.0 20.0 20.0 22.5 25.0 21.0	All others. 8 8 11 1 10.9 7.6 9 1 11.2 11.0 11.7 10.9 11.3 10.4 12.5 14.3 13.0 12.8 14.0
1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 Average, 1899 1908 1909 1911 1911 1912 1913 Average, 1909 1913 1914 1915 1916 1917 1918	Ore-gon Bush. 21. 2 17. 3 23. 3 22. 2 19. 0 21. 4 21. 0 22. 3 25. 5 23. 2 21. 6 21. 0 21. 2 26. 8 21. 4 22. 1 22. 0 24. 0 23. 0 17. 5 17. 0 21. 2 22. 2	Virgima. Bush. 8 4 11 9 10.9 5.7 10.2 11.4 12.5 12.5 11.4 11.2 12.8 12.0 11.6 13.6 12.2 14.5 13.8 12.7 13.0 12.0 11.8	Mary-land. Bush. 14 1 19 5 17.2 14.7 12.5 13.4 16.3 16.0 18.4 16 4 15 9 14 5 17 5 15 0 13 3 15 1 21.5 16.0 17.0 17.0	Mon-tana. Bush. 32 6 22 0 31 7 24 5 25 6 27 3 23 0 27 0 21 5 13 0 12 6 5 2	Kentucky. Bush. 9 1 13 00 12.1 9 3 8 4 11.4 11.2 11.8 12 8 12 7 10 7 13 6 12 2 16 5 11 0 9 0 12.0 13 5	Towa. 18. 1 21. 7 22. 4 18. 5 15. 9 15. 4 20. 1 22. 3 18. 4 20. 9 19. 4 21. 6 21. 2 19. 7 23. 0 23. 4 21. 8 21. 5 18. 5 17. 5 20. 5	Idaho.	Colorado. Bush.	Call-forma. Bush. 14.1 10.3 13.0 10.9 11.2 10.8 9.3 17.1 15.0 5.2 11 7 14 0 18 0 18 0 17 0 14 0 16 0 16 0 19.8 15.5	New York. Bush. 18.5 17.7 13.1 16.8 17.8 11.3 21.0 20.0 17.5 17.1 21.0 20.0 20.0 22.5 25.0 21.0 21.0 18.0 22.0	All others. Bush. 8 8 11 11 10.9 7.6 6 9 1 11.2 11.0 9 11 3 13 13 0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14.0 12 8 14
1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. Average, 1899- 1908. 1910. 1911. 1912. 1913. Average, 1909- 1918. 1914. 1915. 1916. 1917. 1918. 1919. 1919. 1919. 1919. 1919. 1919. 1919. 1919.	Ore-gon Bush. 21.2 17.3 23 3 22.2 17.3 22.2 2 19.0 21.4 21 0 22.3 25.5 23 2 21 6 21.0 19.1 22.2 26.8 21.4 22.1 22.0 23.0 24.0 23.0 21.5 17.0 21.2 22.2 22.2	Virginia. Bush. 8 4 11 99 10.99 5.77 10.2 11.4 12.5 12.5 11.4 12.5 12.5 11.4 12.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	Mary-land. Bush. 14 1 19 5 17. 2 14. 7 12. 5 13. 4 16. 3 16. 0 18. 4 15 9 14 5 17 4 15 5 15 0 13 3 15 1 21. 5 16. 1 16 0 17. 0	Mon-tana. Bush. 32 6 22 0 22 0 21 7 24 5 25 6 27 3 23.0 21 5 13.0 12.6 5.2 12 0	Kentucky. Bush. 9 1 13 00 12.1 9 3 8 4 11.4 11.3 14 1 12 0 11.6 11 2 11.8 12 8 12 7 10 0 0 13 0 11 0 11 0 11 0 11 0 11 0 11	Iowa. 18. 1 21. 7 22. 4 18. 5 15. 9 15. 4 20. 1 22. 3 18. 4 20. 9 19. 4 21. 6 21. 2 21. 2 21. 6 21. 2 21. 5 18. 5 17. 5 18. 3 19. 7	Idaho.	Colorado. Bush	Call- forma. Bush. 14.1 10.3 13.0 10.9 11.2 10.8 9.3 17.1 15.0 5.2 11 7 14 0 18 0 17 0 16 0 16 0 16 0 19 8 15.0 19 8 15.0	New York. Bush. 18.5 17.7 13.1 16.8 17.8 11.3 21.0 20.0 17.3 17.5 17.1 21.0 23.7 19.5 16.0 20.0 20.0 21.0 21.0 22.5 25.0 21.0 21.0 22.0 22.3	All others. Bush. 8 8 11 11 10.9 7.6 9 1 11.2 11.0 11.7 10 9 11 3 10 4 12 5 14 3 13.0 12 8 14.0 13 3 16 1 1 13 9 12 6 12 4 11 4 11 2 13 2

¹ Revised except 1922.

WHEAT—Continued.

Table 34.—Wheat: Yield per acre (spring) in principal producing States, 1899-1921.

				, oj 11.10					
All other.	Bushels 10.0 10.0 11.1 11.1 10.2 9.8	10.9 14.5 10.2 10.2	10.7	12.7 13.4 12.2 20.4 16.5	15.0	20.8 21.1 21.0 18.4	20.1 13.8 15.5	18.7	14.0 15.3
Illunois.	Bushels.				:	25.0	26.9 14.5 16.5		14.5 14.5
Wyo- ming	Bushels 18.8 17.6 24.5 23.5 20.9	22.2 25.4 28.7 26.0	23.6	26.0 26.0 25.2 25.0	26.4	22.0 27.0 22.0	26.0 15.0 20.0	22.0	17.0
Utah	Bushels Br 20.7 20.9 20.5 21.2 21.2 22.6	26.6 27.4 28.8 26.5 26.5	24.2	282 282 283 280 280 280 280 280 280 280 280 280 280	27.7	25.0 28.0 25.0 25.0	23.8	24 2	26.3 25.6
Wiscon- sin.	Bushels. 15.5 15.5 16.0 18.1 6.8	14.8 15.8 15.7 13.5	14.9	19.0 18.7 14.5 18.5 18.6	17.9	17.0 22.5 16.6 21.2	24.7 12.4 12.6	18.1	11,1
Oregon	Bushels. 17.1 10.1 18.8 17.7 17.7	16.1 16.0 17.5 21.5 16.5	16 9	18 7 18.0 17.7 19.5	18.7	16.5 17.0 23.0 11.0	11.0 13.0 17.0	15.5	17.0
Nebraska	Bushels. 6.9 8.0 11.4 14.0 12.6	10.1 14.0 14.7 12.0 13.0	11.7	14 0 13.9 10 0 14.1 12.0	12.8	11.5 16.0 12.5 13.2	11.9 8.5 9.5	11.9	11.3
Colo- rado.	Bushels. 23.7 22.6 22.1 18.0 26.6	22.8 25.0 21.0 21.0	24 5	29.4 119.5 21.0 21.0	23.2	22 5 21.0 19 5 22.0	17.5 15.4 19.4	19.6	19 0 15.0
Iowa.	Bushels 12.6 15.2 15.7 15.7 13.4	4.11.13.8 4.12.13.8 5.51.0 5.51.0	13 7	14.7 20.9 13.8 17.0	16.7	13.5 16.7 13.0 21.5	18.0 9.5 11.3	14.8	10 3 15.0
Idaho.	Bushels 24.3 20.8 21.2 22.1 22.1	838848 800000000000000000000000000000000	23 1	26.0 29.0 28.3 28.3	26.3	24. 0 26. 5 23. 5 22. 0	21 0 18.0 24 0	22.7	24.0
Mon- tana	Bushels 25.7 26.6 26.5 26.0 28.2	8.8.4.8.4. 0.8.0.8.5	25.8	288888 2008 2008	24.2	17.0 26.0 18.0 9.0	12.5 2.3 10.0	13.5	12 0
Wash- ington	Bushels. 21. 3 22. 0 27. 2 20. 8 20. 8	18.9 22.5 19.6 24.5 15.0	21.2	20. 6 14. 5 19. 4 20. 4 19. 0	18.8	20.0 22.2 21.5 13.6	9.5 13.0 11.9	16.0	15.0 9.2
South Dakota	Bushels 10.7 6.9 12.9 12.2 13.8	9.6 13.7 11.2 11.2	11.7	14.1 12.8 4.0 14.2 9.0	10.8	9.0 17.0 6.3 14.0	19.0 8.0 9.0	11.8	9.0
Mınne- sota.	Bushels. 13.4 10.5 12.9 13.9 13.9	12.8 13.3 10.9 12.0	12.7	16.8 16.0 10.1 15.5 16.2	14.9	10.5 17.0 7.5 17.5	21.0 9.3 9.5	13.2	9.5
North Dakota	Bushels 12.8 4.9 4.9 13.1 15.9	11.8 14.0 13.0 10.0	12, 0	13.7 5.0 8.0 18.0 10.5	11.0	11, 2 18, 2 5, 5 8, 0	13.6 6.9 9.1	10.4	8.5
Year.	9 1 1 2 3	8 8	verage, 1899-1908.	3.2.2.2.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3	verage, 1909-1913.		3	verage, 1914-1920	[

JOTE —Arranged in order of importance of production according to 10-year (1911-1920) average. Yield per acre computed to nearest tenth from acreage and production figures, apiled from United States Department of Agriculture data.

1 Revised, except 1922.

Table 35.—Winter and spring wheat: Yield per acre, in States producing both, 1918-1922, and average

			Winter	wheat					Spring	wheat.		
State.	5-yr. aver 1918– 1922	1918	1919	1920	1921	1922	5-yr. aver. 1918- 1922	1918	1919	1920	1921	1922
New York Pennsylvania Ohio Indiana Illinois	Bush	Bush.	Bush.	Bush	Bush	Bush	Bush.	Bush.	Bush.	Bush.	Bush.	Bush.
	20, 3	18 0	22 0	22. 3	19 5	19 5	16. 7	20. 0	15 0	18 0	14. 5	16 0
	17 4	17. 0	17.5	16 6	17. 5	18.5	15. 6	17 0	15 0	16 0	15. 0	15.0
	15, 6	19. 0	20 0	12. 7	12 4	14.0	15 6	21. 5	16 0	13 0	12. 5	15.0
	14 9	21. 0	15 0	12. 0	12. 0	14 5	13 4	23. 0	9.0	12.0	12. 0	11 0
	17 6	21. 5	17.5	15. 1	16 2	17.5	17. 4	26 9	14.5	16 5	14. 5	14.5
Michigan	16 0	14. 0	20.3	15. 6	16.0	14 0	12 5	18 0	11. 2	10 0	9.0	14.5
	19 5	21 2	19 6	22. 0	16 0	18 6	15 2	21.7	12 4	12 6	11 1	15.3
	17.1	18. 0	15 0	19. 6	14 0	19.0	12 6	21 0	9 3	9 5	9.5	13.7
	20 1	20 5	18 3	19. 7	19 2	23 0	12 8	18.0	9. 5	11. 3	10 3	15.0
	13.3	17. 2	13 5	12. 5	10.9	12 5	12 5	15.6	8. 5	13. 0	12.0	13.5
South Dakota.	15. 5	17.0	13. 0	14. 5	14 0	19. 0	11 6	19. 0	8. 0	9. 0	9.0	13. 2
Nebraska	14 6	11.1	14 8	17. 4	15 3	14. 5	10.5	11. 9	8. 5	9. 5	11.3	11. 4
Kansas	13 6	14.1	13 8	15. 4	12 2	12. 6	9 6	8. 0	9. 3	12 5	8 2	10 0
Montana	12 1	12.7	5 2	12. 0	14 0	16. 5	10 3	12 5	2. 3	10. 0	12 0	14. 7
Wyoming	18 2	24. 0	12. 0	20 0	18 0	17. 0	19 0	26. 0	15 0	20 0	17. 0	17 0
Colorado	13, 2	10. 5	13 2	17. 5	12 0	13 0	17 3	17 5	15. 4	19. 4	19 0	15.0
New Mexico	13, 0	10 0	19 1	. 18. 2	12 6	5 0	17 8	24 0	18. 7	18. 5	16. 6	11.0
Utah	15, 8	16. 6	12. 7	15. 9	19. 9	14. 0	23 6	23. 8	18 7	23. 7	26. 3	25 6
Nevada	21, 5	29. 0	19 7	18. 7	20 2	19. 7	24 1	25 0	21. 4	23 0	24. 0	27 3
	20, 8	22. 0	18 5	20. 0	24. 0	19. 5	22. 0	21 0	18 0	24 0	24. 0	23 0
	22, 6	23. 5	21. 1	24. 0	27. 9	16. 3	11 7	9.5	13 0	11. 9	15 0	9.2
	21, 2	17. 0	21 2	22. 2	25 5	20. 0	13. 9	11 0	13 0	17. 0	17 0	11 5
United States	14.7	15. 2	15.1	15.3	13 8	13.9	11 9	16. 2	8 2	10. 5	10.6	14.1

Table 36.—Wheat: Per cent of land area sown to wheat in the United States, by States.¹ [10-year average, 1912-1921.]

		1 3			
State.	Per cent.	State	Per cent.	State	Per cent.
North Dakota. Kansas. Mary land Indiana Delaware Ohio. South Carolina. South Dakota. Nebraska Minnesota.	15 38 9 97 9 20 8 70 7 24 7 14 7 00 6 98	Virginia. Kentucky. Tennessee. Michigan North Carolina. Iowa. Montana Alabama. West Virginia. New Jorsey.	3 00 2 17 2 38 2 35 2 26 1 97 1 86 1 80	Wisconsin Utah. Georgia Arkansas California Arizona Wyoming. New Mexico Vermont Newada	55 53 51 51 47 • 26 17 • 10
Milnesota Illinois. Oklahoma Missouri Washington Pennsylvania	6 89 6 72 6 19 5 02	Oregon Idaho New York Colorado Texas.	1.51 1.49 1.36 1.34	Maine. Mississippi United States	0.7

¹ Compiled from United States Department of Agriculture data.

Table 37.—Wheat Trend of production costs for winter and spring wheat 1 [1913 cost per unit equals 100.]

		•								
			1913			1920			1922	
State.	Product.	Yield.	Cost per unit.	In- dex.	Yield.	Computed cost per unit.	In- dex.	Yield.	Computed cost per unit.	In- dex.
Kansas. Nebraska Missouri	Winter	Bushels. 15	Per bushel. \$1.02	100	Bushels. 15	Per bushel. \$2.13	209	Bushels.	Per bushel. \$1 25	123
North Dakota South Dakota Minnesota	Spring	12	.99	100	9	2.99	302	14	1.00	101

Table 38.—Wheat: Yield per acre, price per bushel December 1, and value per acre, by States.

	Yıe	ld p	er ac	re (b	oushe	els).		•	F	arm	price	per b	ushel	(cent	ts).			per	lue acre ¹ lars).
State	5-year aver- age, 1918-1922.	8161	1919	1920	1921	1922	10-year aver- age, 1913-1922.	1913	1914	1915	1916	2161	1918	1919	1920	1921	1922	5-year aver- age, 1917-1921.	1922
Me Vt N. Y N. J Pa	21 0 18.4 19.9 18.0 17.4	22. 0 22. 0 18. 2 17. 0 17. 0	18.8 16.0 21.0 18.0 17.5	22. 0 19. 0 21. 8 16. 0 16. 6	17. 0 14. 0 19. 2 19. 0 17. 5	25. 0 21. 0 19. 3 20. 0 18. 5	178 164 151 155 148	101 100 93 96 91	109 100 108 109 104	101 106	187 165 168 164 162	235 236 210 213 205	237 231 215 215 214	220 227 215 220 216	230 200 175 205 170	108	145 118 110	37. 97 37. 48 34. 18	42. 50 30. 45 22. 77 22 00 20. 35
Del	15.3	15.5 12.0	13. 5 11. 8	17.0 12.5	14. 0 9. 8	16.5 12.5	155	88 89 96 100 106	109 106 108 108 117	105	162 171 165 160 176	208 207 216 217 234	222 219 219 221 230	213 215 224 220 233	171 165 180 190 210	116 117	112 122 122	28. 13 22. 93 25. 97	17. 50 18. 48 15. 25 14. 03 12. 24
S. C. Ga. Ohio. Ind.	10 2 9 8 15.6 14.9 17.6	11. 0 10. 2 19. 0 21. 0 22. 1	10.0 10.5 19.9 14.9 17.1	11 0 10.0 12.7 12.0 15.2	11.0 10.5 12.4 12.0 16.1	8 0 8.0 14.0 14.5 17.3	203 195 149 147 144	130 120 90 88 86	145 134 105 103 101	138 129 104 102 100	189 186 169 169 165	290 290 204 203 201	260 266 212 208 208	258 263 212 210 210	255 240 165 165 161	175 108 106	150 117 112	24. 36 32 3- 29. 06	12 56 12 00 16 38 16 24 18 51
Mich Wis Minn Iowa Me	15. 7 16. 6 12. 7 18. 3 13. 3	14. 2 24. 2 20. 9 18. 9 17. 2	19 4 13. 5 9. 4 14. 8 13. 5	15 3 15. 1 9. 8 17. 5 12. 5	15. 7 13. 1 9. 7 17. 9 10. 9	14. 0 17. 1 13. 9 22. 3 12. 5	147 141 141 134 142	89 82 76 76 84	103 100 102 96 98	101 95 90 87 98	167 160 162 156 165	204 202 202 199 195	209 205 204 200 205	210 215 250 200 209	168 154 130 140 160	97 97 88	103 101 99	31. 93 24. 73 29. 43	16. 10 17. 61 11. 04 22. 08 13. 12
N. Dak S. Dak Nebr Kans	114 2	111.2	113. X	116. X	115. 1	14. X	136 133 131 136 153	73 71 71 79 96	101 94 95 95 103	87 86 84 89 105	152 150 160 164 166	200 196 195 198 212	203 199 197 199 214	241 240 202 215 211	130 115 131 130 191	87 83 93	92 96 98	20. 69 22. 29 22. 6	12. 69 12. 33 13. 73 12. 35 13. 57
Tenn Ala Miss Tex Okla	9.5 13.3 11.5	9.0 16.5 10.0	9.0 14.0 16.5	9.5 9.6 10.0 13.0 16.0	10. 5 14. 0 10. 0	9.5 12.0 8.0	158 185 179 148 135	98 415 95 94 82	105 126 125 99 92	108 125 105 107 89	169 185 175 173 167	222 270 300 210 194	214 245 250 215 210	222 245 250 200 205	195 230 213 172 135	130	160 145	21. 88 32. 18	11. 68 15. 20 17. 40 8. 80 9. 31
Ark Mont Wyo Colo	18.8 14.2	25. 4 12. 3	14. 4 13. 7	20.0 18.0	17. 2 13. 5	17. 0 13. 4	128 128	90 66 72 78	99 91 89 87	101 78 78 80	163 161 145 150	201 192 200 193	207 194 189 195	202 235 212 202	190 128 135 135	100 85 79 76	89 82 89	14. 88 32. 31 25. 97	13. 78 13. 35 13. 94 11. 93
N. Mex Ariz Utah Nev	24. 4 19. 4 23. 7	26. 0 20 2 25. 5	25. 0 15. 4 21. 2	24. 0 19. 5 22. 3	21. 0 22. 8 23. 5	26. 0 19. 3 26. 2	129 144	97 110 73 82	90 125 86 95	90 115 86 95	150 150 152 140	215 210 178 180	210 240 188 206	200 225 210 214	140 262 153 180	75 130	115 90 120	52. 06 30. 25 43. 73	10. 08 29. 90 17. 37 31. 44
Idaho Wash Oreg Calif.	19.3 16 2	14. 7 15. 0	19. 2 15. 5	20. 9 14. 0	23. 4 15. 0	18. 1 21. 5	132 147	63 73 75 95	87 100 102 104	80 82 84 95	146 143 145 152	182 193 182 200	192 196 201 216	205 214 212 204	125 135 130 180	107	104 108 115	26. 91 28. 74 28. 97	19. 44 13 94 19. 55 24. 72
U.S	13.8	15.6	12.8	13.6	12.8	14.0	138. 8	79. 9	98.6	91.9	160.3	200.8	204. 2	214.9	143. 7	92.6	100. 9	23. 81	14.11

¹ Based upon farm price Dec. 1.

Table 39.—Wheat: Extent and causes of yearly crop losses, 1909-1921.

Year.	Deficient moisture.	Excessive moisture	Floods.	Frost or freeze	Hail.	Hot winds.	Storms.	Total cli- matic.	Plant dis- ease.	Insect pests.	Animal pests.	Defective seed.	Total
1909 1910 1911 1912 1913	P. ct. 8. 5 18. 9 25. 5 8. 1 14. 2	P. ct. 3. 2 .9 .8 1. 8	P. ct 0.7 .2 (1) 3 2	P. ct 2 4 6. 6 1. 5 9. 5 1. 9	P. ct. 2. 0 . 5 . 4 1. 5 . 7	P. ct 1. 2 2. 6 3 8 1 8 1 7	P. ct. 0.6 .2 .1 .4 .3	P. ct. 18. 9 30 0 32. 3 24 0 20 0	P. ct. 1.6 .9 1.9 1.8	P. ct. 1.1 1.9 1.9 2.3 2.2	P. ct. 0. 2 .4 .2 .3 .1	P. ct 0.3 .4 .2 2	P. ct 22 8 33 8 37 8 29. 5 23. 5
1914 1915 1916 1917	6.7 1.3 6.9 19.1	1.4 7.3 3.8 .4	.1 1.0 .6 .1	1.1 1.2 5.1 11.8	1.0 1 6 1.3 1 0	2.7 1 2.7 1.6	.2 .4 .2 .2	13. 4 13 0 21. 2 34. 4	3.0 2.4 12.6 .7	2.6 3.6 4.0 .7	.1 .1 .1	.1 .1 .1	19.8 19.7 38.7 36.3
1918 1919 1920 1921	14.6 12.3 8.1 13.3	.3 6 2 2.3 2.0	$\begin{array}{c} 1 \\ .4 \\ .2 \\ .2 \\ .2 \end{array}$	3.8 1.3 1.0 1.8	1.1 .8 10 1.4	2.0 2.9 1.5 3.6	.2 .3 .4 .3	22. 4 24. 3 17. 6 23. 9	1.5 10.2 9 5 5.2	1.1 2.5 4.4 3.6	.3 .1 .1	(1) (1) .1 .1	25 7 37 6 32 2 33.1
Average	12, 1	2.4	.3	3.8	1.1	2 2	.3	22.7	3.2	2.5	.2	.1	30 0

¹ Less than 0 05 per cent

Table 40.—Wheat: Farm price, cents per bushel on 1st of each month, 1908-1922.

Year.	Jan.	Feb	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver age 1
1908 1909 1910 1911 1912	93. 5 103. 4	95. 2 105. 0	103 9 105.1 85.4	107. 0 101. 5 83. 8	115 9 99. 9 84 6	123, 5 97, 6 86, 3	120. 8 95. 3 84. 3	107. 1 98. 9 82 7	95. 2 95. 8 84. 8	88.4	99.9 90.5 91.5	98. 6 88. 3 87. 4	101 3 96. 5 86 9
1913 1914 1915 1916 1917	81.0 107.8	81.6 129.9 113.9	83. 1 133 6 102 9	84, 2 131, 7 98 6	$1396 \\ 1025$	84. 4 131 5 100. 0	76. 9 102. 8 93 0	76 5 106. 5 107. 1	93.3 95.0 131.2	93. 5 90. 9 136. 3	97. 2 93. 1 158. 4	98 6 91 9 160.3	88 4 105 2 125 9
1918 1919 1920 1921 1922	231.8	207. 5 235. 7	208 0 226.6 147.2	214.2 234.0	231. 1 251. 3 110. 7		222. 0 253. 6 112. 2	232. 2 104. 8	205, 7 218, 7 101 2	209. 6 214. 3 105. 6		214. 9 143 7 92. 6	212 7 217 2 112.7
Average, 1913-1922.	139.9	146.1	146.6	147.5	157.0	158.0	146.8	145. 2	142.6	142.5	142.5	146. 4	153 2

¹ Weighted average.

Table 41.—Wheat: Average price per bushel to producers in principal producing States, 1909-10 to 1921-22.

[Yearly averages are based upon prices on first of each month and weighted by monthly rate of movement from farms.]

State.	5-year average, 1909-1913.	7-year average, 1914-1920.	1921–22	State.	5-year average, 1909-1913	7-year average, 1914-1920	1921–22
Kansas North Dakota Nebraska Minnesota Washington Illinois South Dakota	85 4 80. 9 89 0 77. 2 91. 8 84. 9	Cents 162 3 164. 7 156 8 166. 3 156. 4 168. 1 159. 4	Cents. 110 5 105. 6 110. 0 115. 2 94. 0 108. 8 100. 4	Oregon	96. 6 95. 5 86. 1 83. 9 101. 8	Cents. 155. 4 149. 7 167. 7 172. 3 162. 0 148. 4 175. 9	Cents. 95. 8 82. 2 107. 2 111 3 99. 4 86. 8 126 5
Missouri Ohio Oklahoma Indiana Pennsylvania Montana	96. 7 87. 2 93. 6	162. 9 172. 0 160. 5 168 8 172. 9 158. 5	106 2 116.0 97.7 114 2 114.5 98.5	Maryland Kentucky New York California North Carolina All other	95. 8 97. 3 96. 9 96. 4 111. 0 104. 0	172. 1 173. 8 174. 5 172. 5 191. 8 182. 5	113 0 123.3 115 8 122 0 141 7 134.2

¹ Compiled from United States Department of Agriculture data.

Table 42.—Wheat: Monthly marketings by farmers, 1917-1922.

	Estimated amount sold monthly by farmers of United States (millions of bushels) .														
Year.	July.	Aug.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Maı.	Apr	May.	June.	Sea- son.		
1917–18. 1918–19 1919–20. 1920–21. 1921–22.	41 136 137 82 142	69 154 186 97 136	108 139 125 108 122	101 107 89 72 79	77 67 60 47 51	43 56 45 42 40	26 36 34 38 33	22 24 24 36 36	21 16 23 33 29	23 13 25 34 24	17 15 27 44 26	12 12 25 47 27	560 775 800 680 745		
Average	108	128	120	90	60	45	33	28	24	24	26	25	711		
	Per cent of year's sales.														
1917-18 1918-19 1919-20 1920-21 1921-22	17. 1 12. 1 19 1	12. 4 19. 9 23. 2 14. 3 18 2	19. 3 18 0 15. 6 15. 9 16. 4	18. 0 13. 8 11. 1 10. 6 10. 6	13. 7 8. 7 7. 5 6. 9 6 8	7. 6 7. 3 5. 7 6. 2 5. 4	4.7 4.6 4.2 5.5 4 4	3.9 3.1 3.0 5.3 4.9	3.7 2.0 2.9 4.9 3.9	4.1 1.6 3.1 5.0 3.2	3.1 1.9 3.4 6.4 3.5	2.1 1.5 3.2 6 9 3.6	100. 0 100. 0 100. 0 100. 0		
Average	14.7	17.6	17.0	12, 8	8.7	6.4	47	4.0	3. 5	3. 4	3.7	3.5	100.0		

Table 43.—Wheat Monthly and yearly average price per bushel of reported sales, 1909-10 to 1921-22.

NO. 2 RED WINTER, CHICAGO.1

Crop year.	July.	Aug.	Sept.	Oct	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weight- ed aver- age.
1909-10 1910-11 1911-12 1912-13 1913-14		\$1.04 1.02 .90 1.03 .88	\$1.07 .99 .93 1.03 93	\$1. 20 . 96 1. 00 1. 06 . 92	\$1. 18 . 93 . 96 . 99 . 92	\$1. 25 . 94 . 96 . 86 . 94	\$1. 26 . 98 . 97 1. 09 . 97	\$1. 23 . 91 1. 01 . 99 . 97	\$1.18 .90 1.03 .95 .95	\$1.11 .90 1.09 1.02 .95	\$1.11 .96 1.16 1.03 .99	\$1 01 .91 1 10 1.00 .82	\$1 10 1 02 . 90 1. 03 . 88
Av , 1909-1913	.99	. 97	.99	1 03	1.00	. 99	1 05	1.02	1.00	1 01	1 05	97	
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	. 82 1. 13 1. 23 2. 50 2 22 2 23 2 59	. 92 1 11 1 43 2. 30 2 21 2 24 2. 50	1 11 1 08 1.53 2 17 2.23 2.24 2 53	1. 12 1 12 1 66 2 17 2 25 2. 24 2. 20	1 15 1 12 1 85 2 17 2 24 2. 29 2 01	1 20 1 23 1 76 2 17 2 29 2 44 2 02	1. 39 1 30 1 89 2. 17 2 34 2 64 1. 94	1 57 1. 23 1 74 2 17 2. 28 2. 42 1. 85	1 52 1. 13 1 99 2 17 2. 36 2 2. 55 1. 65	1 59 1 22 2. 43 2 17 2. 52 2 63 1. 41	1 55 1.15 2 94 2 16 2.76 3.10 1.67	1 24 1 05 2.76 2 17 2 32 2.89 1.47	1. 08 1. 13 1. 68 2 25 2 22 2. 24 2 22
Av , 1914–1920	1.82	1.82	1.84	1 82	1.83	1 87	1. 95	1 89	1.91	2 00	2 19	1 99	
1921-22	1. 24	1. 22	1.29	1.18	1. 23	1.18	1. 21	1 34	1.38	1.40	1.34	1.18	1. 25

1909–10. 1910–11. 1911–12. 1912–13.	\$1. 29 1. 21 . 99 1. 09 . 91	\$1.06 1.13 1.05 .98 .88	\$1.04 1.09 1.09 .89 .87	\$1 04 1.08 1.10 .90 .84	\$1.05 1.04 1.05 .84 .85	\$1. 12 1. 03 1 02 . 82 . 86	\$1.14 1.06 1.06 .89 .87	\$1. 14 1. 02 1. 06 87 . 93	\$1.15 .98 1.08 .85 .92	\$1. 11 . 96 1. 10 . 88 . 91	\$1.10 .99 1.16 .91 .94	\$1.09 .97 1.13 .92 .92	\$1. 09 1. 05 1 07 . 87 . 88
Av , 1909-1913	1 10	1.02	1.00	. 99	. 97	.97	1.00	1.00	1.00	. 99	1.02	1.01	
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	. 92 1. 44 1. 21 2. 66 2. 17 2. 66 2. 89	1 10 1. 18 1. 64 2. 47 2. 23 2. 59 2 56	1. 12 . 97 1. 64 2 17 2 23 2. 56 2 54	1. 11 1 02 1 79 2. 17 2. 19 2 67 2. 16	1 18 1. 02 1. 95 2. 17 2 22 2 85 1. 80	1 20 1 14 1 79 2 17 2 22 3 07 1,68	1. 38 1. 29 1 93 2. 17 2 21 3 01 1 79	1. 52 1 26 1. 86 2. 17 2 24 2 67 1. 72	1. 49 1. 14 2 03 2 17 2. 36 2. 84 1. 66	1. 58 1. 22 2 38 2 17 2 56 3 06 1. 53	1.58 1.22 2 96 2.17 2 59 3.09 1.55	1. 35 1. 11 2. 73 2. 17 2. 48 2. 93 1 69	1 20 1.09 1.76 2 20 2.25 2.72 2 07
Av., 1914-1920	1.99	1 97	1.89	1 87	1 88	1 90	1.97	1 92	1.96	2.07	2.17	2 07	
1921–22	1.67	1.48	1. 51	1.34	1. 25	1.30	1 34	1.51	1.51	1.58	1.56	1.46	1.43

NO 1 DARK NORTHERN SPRING, MINNEAPOLIS 3

	(·	1		1		1	1	I	1	1	1	
1917-18		\$2,50	\$2 21	\$2. 21	\$2, 21	\$2. 21	\$2.21	\$2 21	\$2. 21	\$2, 21	\$2, 21	\$2, 21	\$2, 23
1918–19	\$2, 21	2 29	2. 24	2. 23	2, 25	2 25	2. 25	2, 29	2 41	2.63	2 68	2. 56	2, 36
1918–19 1919–20	2. 72	2, 71	2.77	2, 84	3.00	3. 25	3, 34	2, 90	2.97	3, 23	3. 26	3, 01	3, 00
1920-21	2.94	2. 59	2 65	2. 21	1.82	1.72	1.81	1.74	1 72	1.57	1 67	1.74	2 02
Av., 1917–1920	2. 62	2. 52	2, 47	2. 37	2, 32	2. 36	2 40	2. 28	2. 33	2, 41	2. 46	2.38	
1921–22	1. 81	1.57	1. 56	1.37	1.30	1. 33	1. 39	1.58	1.50	1.66	1.71	1. 53	1. 48

Compiled from the Chicago Daily Trade Bulletin
 Based on small number of sales.
 Compiled from the Minneapolis Market Record.

Table 43.—Wheat: Monthly and yearly average price per bushel of reported sales, 1909–10 to 1921–22.—Continued

	NO. 2 HARD WINTER, KANSAS CITY.1													
Crop year.	Jniy.	Aug.	Sept.	Oct.	Nov.	Dee.	Jan.	Feb.	Mar.	Apr.	May.	June.	Weight- ed aver- age.	
1909–10. 1910–11. 1911–12. 1912–13. 1913–14.	1.04	\$1.02 1.00 .93 .89 .83	\$1.02 .99 .95 .88 .87	\$1.06 .95 1.04 .88 .84	\$1.04 .91 1.00 .83 .83	\$1.10 .93 1.00 .84 .84	\$1.11 .95 1.05 .87 .85	\$1.11 .90 1.03 .86 .86	\$1.10 .88 1.05 .86 .88	\$1.08 .88 1.09 .88 .87	\$1.07 .90 1.11 .87	\$1.08 .88 1.09 .88 .85	\$1.07 .98 .97 .88 .84	
Av, 1909-1913		.93	.94	.95	.92	.94	.97	.95	.95	.96	.97	.96		
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	.78 1.36 1.14 2.68 2.20 2.25 2.67	.91 1.26 1.41 2 61 2.16 2.18 2 44	1.04 1 07 1.57 2.12 2.16 2.24 2.43	1.02 1.07 1.67 2.12 2.16 2.30 2.06	1.08 1.03 1.85 2.12 2.15 2.46 1.78	1.13 1.12 1.72 2.12 2.24 2.63 1.71	1.34 1.20 1.89 2.12 2.31 2.82 1.72	1.54 1 20 1.82 2.12 2.26 2.42 1.62	1. 49 1. 05 1 97 2. 12 2. 39 2. 49 1. 55	1.54 1.12 2.43 2.12 2.62 2.75 1.33	1.50 1.10 3.01 2.12 2.60 2.93 1.47	1.21 1.00 2.74 (2) 2.47 2.76 1.38	1. 05 1. 19 1. 71 2. 52 2. 19 2. 42 1. 86	
Av , 1914–1920	1.87	1.85	1.80	1.77	1.78	1.81	1.91	1.85	1.87	1.99	2.10	1.93		
1921-22	1.14	1.15	1.22	1.10	1.10	1.09	1.13	1.29	1.34	1.35	1.34	1.17	1.19	
NO. 2 RED WINTER, ST. LOUIS.3														
1909-10. 1910-11. 1911-12. 1912-13. 1913-14.	\$1 13 1.07 .84 1.03 .85	\$1 12 1.02 .88 1.04 .88	\$1. 14 1. 02 . 94 1. 03 . 94	\$1.23 1 00 1 00 1.09 .93	\$1. 22 . 96 . 96 1. 04 . 94	\$1.28 .98 .97 1.07 .95	\$1.30 1.03 1.02 1.11 .96	\$1. 27 . 96 1 01 1. 09 . 95	\$1.23 .93 1.04 1.08 .95	\$1.12 .90 1.13 1.09 .94	\$1.16 .94 1.21 1.04 .96	\$1.02 .88 1.11 .99 .84	\$1.13 .99 .94 1.05 .89	
Av 1909–1913	.98	. 99	1.01	1.05	1.02	1.07	1 08	1.06	1 05	1.04	1.06	.97		
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	.87 1.17 1.25 2.36 2.21 2.22 2.70	.93 1.14 1.45 2.32 2.21 2.20 2.47	1. 10 1 14 1. 60 2. 15 2. 19 2. 21 2. 56	1. 10 1. 21 1. 73 2. 15 2. 22 2. 24 2. 25	1. 11 1. 16 1. 87 2. 15 2. 22 2. 29 2. 03	1. 18 1. 23 1. 83 2. 15 2. 32 2. 48 1. 99	1. 40 1. 34 1. 96 2. 15 2. 41 2. 70 2. 02	1.57 1.30 1.88 2.15 2.38 2.55 1.90	1.50 1.17 2.05 2.15 2.55 2.58 1.66	1.54 1.22 2.66 2.15 2.71 2.76 1.41	1.50 1 20 3.04 2.15 2.60 2.99 1 58	1.19 1.10 2.65 2.15 2.41 2.89 1.50	1.10 1.20 1.63 2.23 2.23 2.30 2.18	
Av., 1914-1920	1.83	1.82	1.85	1.84	1 83	1.88	2.00	1.96	1.95	2,06	2.15	1.98		
1921-22	1. 23	1.23	1.36	1.26	1.20	1. 21	1.16	1.32	1.35	1.44	1.38	1.18	1.27	
		NO.	1 NO	RTH	ERN 8	SPRIN	ıg, w	INNI	PEG.4		·			
1909–10	\$1.31 1.08 .95 1.07 .97	\$1.19 1.07 1.01 1.06 .95	\$1.00 1.03 1.01 1.00 .89	\$0.97 .98 1.00 .91 .81	\$0. 97 . 92 . 99 . 85 . 83	\$0. 98 . 90 . 95 . 80 . 84	\$1.03 .94 .95 .82 .85	\$1.03 .93 .97 .84 .88	\$1.04 .90 .98 .85 .90	\$1.03 .90 1.01 .89	\$0.98 .95 1.04 .93 .93	\$0.93 .97 1.06 .96 .94	\$0.96 .96 .99 .92 .89	
Av., 1909-1913		1.06	.99	. 93	. 91	.89	.92	.93	. 93	. 95	. 97	.97		
1914-15 1915-16 1946-17 1917-18 1918-19 1919-20 1920-21	.90 1.35 1.14 2.34 2.21 2.24 2.15	1. 04 1. 25 1. 42 2. 40 2. 21 2. 24 2. 15	1. 13 . 95 1. 59 2. 25 2. 24 2. 15 2. 72	1. 11 .96 1. 68 2. 21 2. 24 2. 15 2. 32	1. 18 1. 02 1. 93 2. 21 2. 24 2. 15 2. 03	1. 18 1. 07 1. 76 2. 21 2. 24 2. 15 1. 94	1.32 1.18 1.80 2.21 2.24 2.15 1.94	1.51 1.26 1.68 2.21 2.24 2 15 1.88	1. 49 1. 10 1. 85 2. 21 2. 24 2. 15 1. 91	1. 54 1. 04 2. 11 2. 21 2. 24 2. 15 1. 76	1.61 1.17 2.75 2.21 2.24 2.15 1.86	1.32 1.11 2.49 2.21 2.24 2.15 1.89	1. 28 1. 12 1. 85 2. 24 2. 24 2. 17 2. 05	

1.86

1.41

1.85

2.00 1.92

1.46 1.33

1.38

1.86

1.43

1.46

1.81 | 1.82 | 1.79

1.14 | 1.11 | 1.13

1.83

1.82 1.86

Av., 1914-1920... 1.76

¹ Compiled from Kansas City Price Current and Grain Market Review.

Table 44.—Wheat: Monthly and yearly average price per bushel, 1909-10 to 1921-22. NO. 2 HARD WINTER, NEW YORK.1

Crop year.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr	May	June.	Yearly aver- age
1909-10. 1910-11. 1911-12. 1912-13. 1913-14. Av , 1909-1913	\$1.31 1.14 .98 1.10 .99	\$1.12 1.10 .98 1.03 .97 1 04	\$1 12 1 06 1 04 1.01 .98	\$1 20 1.04 1 10 1.02 95 1 06	\$1.19 1 02 1.05 .98 .98 1.04	\$1 24 1.02 1.07 .99 1.00	\$1.26 1 08 1.11 1.06 .93	\$1 33 1.03 1.13 1.04 1.02 1 11	\$1.27 1 00 1.13 1.00 1.02 1 08	\$1.19 .99 1 19 1.03 1 02 1 08	\$1.14 1.03 1.24 1.02 1.05 1 10	\$1.05 97 1.20 1 04 1.00 1 05	\$1 20 1.04 1 10 1 03 .99 1 07
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av., 1914-1920	. 92 1. 36 1. 26 2. 44 2. 31 2 38 2 92 1. 94	1 01 1.22 1 57 2.46 2 38 2 38 2.62 1 95	1.13 1.20 1 68 2 28 2.38 2.38 2 65	1 12 1 24 1 84 2 64 2 38 2 38 2 33 1 99	1 23 (2) 2.00 2.81 2 38 2 38 2 06	1 31 (2) 1.87 2.62 2.38 2.38 1 95	1 52 1.40 2 09 2.26 2 38 2 37 2 00 2 00	1 72 1 42 2 00 2 26 2 38 2 37 1 90 2 01	1 66 1.25 2 16 2.26 2 38 2 51 1 81 2.00	1 67 1 29 2 63 2 26 2 38 3 02 1 59 2 12	1 05 1 24 3 07 2 26 2 38 3 09 1 75 2 21	1 37 1 15 (2) 2 26 2 38 2 98 1 67 1 97	1 36 1 28 2 02 2 40 2 37 2 55 2.10
1921–22	1.46	1 36	1.38	1 20	1.16	1.25	1.23	1.43	1.45	1.51	1 49	1.30	1.35

¹ Compiled from New York Journal of Commerce.
² Nominal.

Table 45.—Wheat: Monthly and yearly weighted average price 1 per bushel of reported cash sales of all classes and grades combined at markets named, 1918-19 to 1921-22.2

MINNEAPOLIS

MINNEAPODIS														
Crop year.	July.	Aug	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June	Yearly weight- ed aver- age	
1918–19. 1919–20. 1920–21. 1921–22.	212.8 248.9 274.6	221.3 230.1 247.1		218.6 240.9 203.9	220. 5 261. 6 172. 4	220. 0 278. 5 163. 0	218. 9 276 5 167. 8	221. 2 245. 6 156. 3	230. 5 254 8 151. 5	245.3 285.3 135.1	297.0 144.5	239. 8 278. 7	Cents 222, 4 257, 6 187, 9 131, 2	
. KANSAS CITY.														
1918–19	220. 2 219 3 267. 4 117. 0	264. 4 245. 6	215.9	221. 2 206. 6	235. 9 176. 3	252, 2	266.3 173.0	233. 4 164. 6	154.6	263. 5 133. 5	248. 0 286. 3 147. 5 125. 9	273.5 139.7	218. 1 244. 9 190. 2 118. 2	
			. 2012		CHI	CAGO	•						CONTRACTOR CONTRACTOR	
1918–19 1919–20 1920–21 1921–22	225. 0 223. 9 264. 9 124. 1	222. 2 248. 8	221.9	225.7 209.9	242.0 280.7	223. 2 249. 5 173. 4 110. 5	272. 2 178. 6	171.9	157.3	289.8 139.7	252. 5 295. 8 156. 5 132. 7		223. 0 226. 1 216. 3 121. 6	
					ST.	LOUI	s							
1918–19 1919–20 1920–21 1921–22	221. 6 220. 7 273. 3 120. 3	218.6 249.9	218.3 253.1	222. 0 220. 9 219. 2 111. 6	224.8 197.2	224. 9 191. 2	252. 5 194. 7	247. 4 183. 7	252. 3 253. 5 163. 8 133. 1	275.8	293. 1 155. 0	283.0 148.2	223. 6 225. 2 210. 1 120. 4	
			FOU	R MA	ARKE	TS C	омві	NED.						
1918–19 1919–20 1920–21 1921–22	221. 2 223. 1 270. 6 122. 9	235. 9 247. 3	223.6 246.6	229 3	246. 5 175. 1	256. 8 167. 2	267. 9	240. 1 163. 2	154.3		147.6	238. 2 277. 0 144. 1 122. 5	221. 7 241. 8 193. 3 123. 7	

¹ The prices in this table are comparable with the farm prices. The farm prices are averages of the

Table 46.—Wheat: Monthly and yearly average spot prices per bushel of 60 pounds of good average quality red wheat at Liverpool, 1862–1922.

	1		1												
													7	Zearly	r.
Year.	January.	February.	March	April.	May.	June.	July.	August.	September	October.	November.	December.	Average.	Hıgh.	Low.
Average, 1862-1868	\$1 62	\$1 60	§1 58	\$1.57	31. 56	\$1 53	\$1 52	\$1 50	\$1 50	§1 51	\$1 51	\$1 5±	S 1 55	\$1.77	\$1.35
1869-1878	1 56	1 54	1.51	1 54	1 56	1 54	1 52	1 53	1 54	1 53	1 52	1 54	1 54	1 74	1.38
1879 1880 1881 1882 1883	1 29 1.57 1 41 1 59 1 33	1 29 1 59 1 37 1 58 1 39	1 36 1 63 1 42 1 50 1 35	1 43	1 35 1 43 1 38 1 52 1 32	1 32 1 38 1.42 1 52 1.31	1 38 1 35 1 44 1 52 1 30	1 35 1 31 1 55 1 37 1 36	1 46 1.28 1 64 1 25 1 33	1 34 1 65 1 25	1 64 1 40 1 61 1 26 1 28	1 69 1 40 1 57 1 29 1.28	1 43 1 43 1,49 1 43 1 32	1.64 1.68	1.35
1884 1885 1886 1887 1888	1 24 1 08 1 07 1 09 99	1 24 1 03 1 06 1 07 98	1 24 1 06 1 01 1 06 98	1 14 1 16 1 03 1 03 . 99	1 14 1 12 1.03 1 06 1 00	1 02	1 14 1 06 97 95 1 00	1.15 1 07 .99 90 1 10	1 00 1 06 .99 88 1 15	. 98	. 97 1 06 1 02 98 1 25	1. 02 1 05 1 08 1 00 1 21	1 12 1.08 1 02 1 00 1 07	1 20 1 09 1 13	. 95 1. 02 . 95 . 86 . 97
Average, 1879-1888	1 27	1 26	1 26	1 25	1 21	1 22	1 21	1 22	1 20	1 24	1 25	1 26	1 24	1 40	1 15
1889 1890 1891 1892 1893	1 16 1 03 1 12 1 16 85	1 14 1 03 1 12 1 14 .85	1 12 1 03 1.19 1 14 .81	1 04 1 05 1 24 1 09 .81	1 25	1 19 1 04	1 00 1 04 1 14 1 02 82	1 05 1 23 91	1 02 1 04 1 19 86 80	1 04 1 20 88	1 02 1 03 1. 26 86 76	1 23 83	1 04 1 04 1 20 1 00 81	1 07 1 30 1.20	. 93 1 02 1. 11 . 80 . 73
1894 1895 1896 1897 1898	76 . 67 . 80 96 1 08	74 64 83 91 1.18	.71 .68 80 89 1.14	70 73 . 80 86 1 28	81 81 86	. 83	65 77 · 76 90 · 96	1 10	1 15	95 1 10	67 75 99 1 09 89	73 75 . 99 1 09 87	84	1 03 1 22	. 63 . 73 81
Average, 1889-1898	. 96	96	. 95	. 96	98	91	. 91	92	90	92	93	93	. 94	1.12	. 81
1899 1900 1901 1902 1903	86 . 86 . 89 . 90 . 90	83 87 87 . 89 . 91	.79 86 .87 89 .90	81 93 86 90 89	· 86	. 87 91 84 89 . 91	82 91 82 • 91 89	86 83 91	.81 .86	83 85	83 87 84 85 88	81 86 .90 .88	· 85	94 94	· 84 78 83
1904 1905 1906 1907 1908	. 89 1 03 89 1 16	.90 1.03 92 1 07	1.01 1 04	95 . 99 99 92 1 11	98	1.04	. 89 . 96 1 04 1. 09	1 05	.94 91 1.11	1.14	.97 90 1 12 1.15	.96 .90 1 13 1 16	1.02	1.04	93 89 87
Average, 1899-1908	93	92	93	94	. 93	. 93	93	92	. 93	. 94	93	.94	93	1 01	- 86
1909. 1910. 1911. 1912. 1913.	1 16 1 24 1 07 1 11 1 11	1 21 1.23 1 07 1.15 1 12	i 20	1.32 1 18 1 23 1.13	1 10 1 03 1 23	1 34 1 04 1 01 1 22 1 11	1 37 1 08 1 04 1 24 1.10	1 15 1 04 1 15	1 12	1.08	1 21 1.04 1.05 1 11 1.04	1.21 1 04 1.07 1 09 1 05	1 06	1 10 1 27	98 1.03 1.07
Average, 1909-1913	1 1 %	1.16	1 19	1 22	1 17	1 15	1 17	1 14	1 10	1 10	1 09	1 09	1 14	1 24	1 03
1914 1915 1916 1917	1 02 1 67 1 94 2 39	1 04 1 95 1 90 2 43	2.00 2.42		1.98 1 71 2.46		1. 05 1 63 1 58 2. 50	1 61 1.96 2 50	2 00 2.38	1 71 2 15 2 26	1.38 1 59 2.22 2.26		1. 18 1. 75 1. 94 2. 40		
1918 1919 1920	2 32 2 46 1 90	1 75	2 11	2.32 2.41 2.37								ļ	2 23		
Average, 1914-1920	1.96		2.05	2 07	2 05	1.98	1 96	_	1.99		2.08	2 09	2 02		
1921	2.33 1.37	2 14	2. 14 1. 58	2 13 1 58	2 18 1 59	1 96 1 44	1 71 1:49	1 59 1.35	1.56 1 29	1 31 1 44	1.26	1 37	1 81		

^{1 1862} to 1903 compiled from Broomhall's 1904 Year Book, p. 144; 1914 to 1920 from Broomhall's 1921 Year Book Remainder of table from Corn Trade News. High and low not given 1914-1999 Conversions

Table 47.—Flour (wheat): Monthly average wholesale price per barrel at markets named, 1909-10 to 1921-22.

MINNEAPOLIS-SPRING PATENTS.1

Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Yearly aver- age.
1909-10 1910-11 1911-12 1912-13 1913-14	\$6 21 6. 20 4. 88 5. 43 4 66		575 4. 98	5. 21 5. 25	\$5. 22 5 03 5. 05 4. 59 4. 18	5. 01 5. 05 4. 13	5. 28 5 00 4. 26	4 91	4. 75 5 10 4. 43	4.64 5.10	4. 89 5. 43	4.81	5. 19 5. 19
Av., 1909-1913	5. 48	5. 27	5. 00	4.94	4. 81	4 76	4. 88	4. 88	4. 87	4. 81	4. 94	4. 98	4. 98
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	4. 62 6 78 5 68 12 86 10 45 12. 15 14. 12	6 42 7.69 13.22 10.53	5 13 8 26 11.15 10.49 11 54	5. 23 9. 08 10. 84 10 44 12 03	5. 28 9. 56 10. 24 10. 41 13. 20	5 98 8.60 10.07 10 44 14 48	6 23 9 00 9.85 10 42 14.97	6 13 8. 45 10. 05 10 69 13 73	5. 70 9 44 9. 89 11. 22 13. 41	5. 90 11. 33 9. 90 12. 09 14. 69	5. 79 14. 09 9. 42 12. 52 15. 49	13. 08 9. 89 12. 00 14. 64	5. 82 9. 52 10 62 10 97 13. 54
Av , 1914-1920	9. 52	9.87	9.37	9. 24	9. 17	9. 27	9.61	9. 42	9. 42	9.98	10.54	10.15	9. 63
1921-22	9. 27	8.34	8. 62	7.67	7. 39	7. 26	7. 33	8. 17	8. 27	8.46	8.32	7. 71	8.07

ST. LOUIS-SOFT WINTER PATENTS 2

1909–10	\$5.80 5.20 4.17 5.26	4.85 4.25	4.76	4.68 4.69	4. 58 4. 68	4 58 4.62	4.86 4.74	4 70	4 52 4.72	4.38 5 07	4.39	5. 43	4.75
1913-14.	4. 12	3.88	3.98	3.95		4.14			4. 02	3. 85		3. 74	4.00
Av., 1909-1913	4 91	4.48	4.56	4.75	4.74	4.77	4.88	4. 82	4.74	4 66	4 73	4 62	4.72
1914-15 1915-16		4.87	4.83	5.08	5.18	5.39	5.60	5.79	5. 24		5. 20		5. 51 5. 25
1916–17. 1917–18.	5 24 10.64	10 78	10.36	7.84 10 33	10.26	10.28		10 74	11 40		10.94		10 69
1918–19 1919–20	10. 25 10. 80	10.13	9.90		10.12	11, 31	12.08	11 49	11.59	11.45 1234	13.93	10. 28 13. 18	10.69 11.40
1920-21	11 98			11 38								7. 98	9.84
Av , 1914–1920 1921–22	8. 28 6 61	8. 43 6. 63	8 54 6, 94			8 57 6 25						9 31	8. 91
1921-22	0 01	0.03	0.94	0. 60	0. 25	0 25	5. 99	6.69	7. 05	6. 79	7. 07	6. 48	6.61

CHICAGO-WINTER PATENTS.8

6. 08 4 92 4. 08 4 86 4. 25	\$5. 07 4. 87 4. 12 4. 52 4. 12	4. 72 4. 32 4. 69	4. 57 4. 64	4.40 4.61		4. 53	4.31	4 ()9 4.58	4 06 4.76	4. 20 5. 21 4. 48	4. 16 5. 17	4.41 4.61 4.58
4 84	4. 54	4. 52	4.64	4 66	4.69	4.66	4. 65	4. 58	4. 56	4.63	4. 55	4.63
3. 80 5. 16 5. 23 1. 77 0. 88 1. 02 2. 98	12. 25 10. 68 10. 54	5. 10 7. 30 11. 74 10. 20 10. 80	5. 26 7. 78 10. 68 10. 08 11. 35	5. 23 8. 82 10. 38 9. 58 11. 91	5. 39 8. 20 10. 44 10. 22 13. 00	5. 92 9. 09 9. 92 10. 55 13. 68	6. 11 8. 44 10. 45 10. 42 12. 88	10.36 12.08	10. 95 11. 44 12. 30	5. 54 14. 91 10. 82 12. 99 13 68	5. 37 13. 80 10. 88 11. 82 13. 42	5. 46 9. 20 10. 94 10. 77 12. 22
8. 69	• 8. 80	8, 96	8. 76	8. 79	8. 75	9.38	9. 28	9 14	9. 53	10.42	9. 96	9 21
7. 12	7.00	7 01	6. 95	6.51	6. 44	6. 01	6. 97	6. 81	6. 95	7.54	7. 11	6.87
4444 - 4 - 35551012 - 8	92 . 08 . 86 . 25 . 84 . 80 . 16 . 23 . 77 . 88 . 02 . 98	92 4 87 .08 4 .12 .86 4 .52 .25 4 .12 .80 4 .54 .80 4 .54 .23 6 .55 .24 1.2 .23 6 .55 .24 1.2 .23 6 .55 .24 1.2 .25 10 .68 .02 10 .54 .98 11 .79 .69 8 .80	92 4.87 4.72 .08 4.12 4.32 .86 4.52 4.69 .25 4.12 4.16 .84 4.54 5.36 .16 5.24 5.10 .23 6.55 7.30 .77 12.25 11.74 .88 10.68 10.20 .92 10.54 10.80 .98 11.79 12.22 .69 8.80 8.96	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	99 4.87 4.72 4.57 4.40 4.41 .08 4.12 4.32 4.64 4.61 4.85 86 4.52 4.69 4.52 4.56 4.59 .25 4.12 4.16 4.21 4.21 4.22 84 4.54 4.55 5.36 5.16 5.23 5.22 1.16 5.24 5.10 5.26 5.23 5.32 5.22 1.12 2.11 0.08 9.58 10.28 10.28 10.38 10.48 10.88 10.88 10.20 10.08 9.58 10.22 10.54 10.80 11.35 11.91 13.00 1.98 11.79 12.22 11.00 10.40 8.78 1.69 8.80 8.96 8.76 8.79 8.75	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	992 4.87 4.72 4.57 4.40 4.41 4.53 4.31 4.36 8.6 4.52 4.69 4.52 4.56 4.59 4.62 4.57 4.25 4.56 4.59 4.62 4.57 4.25 4.56 4.59 4.62 4.67 4.58 4.59 4.52 4.56 4.59 4.62 4.67 4.58 4.59 4.52 4.56 4.59 4.62 4.67 4.52 4.56 4.59 4.62 4.67 4.52 4.56 4.59 4.62 4.67 4.52 4.56 4.59 4.62 4.67 4.52 4.56 4.59 4.62 4.67 4.52 4.56 4.59 4.66 4.65 4.59 4.56 5.23 5.23 5.23 5.29 6.28 7.42 4.56 5.24 5.10 5.26 5.23 5.23 5.29 6.28 7.42 4.52 4.52 5.10 5.26 5.23 5.29 5.92 6.11 4.52 6.52 5.23 5.23 5.29 6.11 4.52 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$

¹ Compiled from the Minneapolis Daily Market Record.
2 Compiled from St. Louis Annual Statements of Trade and Commerce and St. Louis Market Reporter

7.82

7.95 7.96 8.18 7.63

WHEAT-Continued.

Table 47.—Flour (wheat): Monthly average wholesale price per barrel at markets named, 1909-10 to 1921-22—('ontinued.

CHICAGO-SPRING PATENTS.1

			CILI	02140			, with	T/ T/3					
Year.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	Yearly aver- age.
1909–10 1910–11 1911–12 1912–13 1913–14	\$6. 17 6. 76 5. 53 6. 10 4. 89	\$5. 81 6. 65 5. 83 5. 79 4. 80	\$6 08 6.37 5 89 5 65 4.73	\$5 92 6. 31 6. 12 5. 36 4. 62	\$6 13 6 18 5 95 5.14 4 58	\$6 45 6 28 5 80 4 84 4.65	\$6.41 6 42 5 82 4 60 4.68	\$6 35 6 05 5 86 4 66 4.80	\$6.46 5 56 5 80 1.64 4.86	\$6 28 5 36 5 88 4 71 4 71	\$6 27 5.62 6.38 4 88 4.74	£3. 18 5. 44 6. 40 4. 81 4. 72	\$6. 21 6. 08 5. 94 5, 10 4. 73
Av., 1909–1913	5. 89	5.78	5 74	5. 67	5.60	5 60	5. 59	5 54	5 46	5 39	5 58	5 51	5.61
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	6 66	5. 62 6. 76 7. 63 13 03 11 00 12. 25 13. 10	6 18 5 40 8 15 11 46 10 62 11 40 12 42	5. 71 5. 60 9 84 10. 89 10. 40 11 52 11. 75	5. 79 5. 69 9. 79 10 55 9 58 13. 00 10 75	5. 90 5 84 9. 02 10 45 10 50 13. 95 8 32	6. 97 6. 51 9 54 10. 08 10. 42 13 88 10 00	7. 62 6 74 9. 01 10. 75 10. 28 14. 42 8. 82	7. 41 5. 87 9 75 11. 25 10 20 13 18 8. 75	7. 62 6. 16 12. 02 11. 50 11 45 13. 75 8. 48	7. 85 6. 11 15. 34 11. 15 13 10 15 40 8. 42	6. 62 5. 99 17. 46 10. 88 11. 25 14. 50 9. 60	6. 49 6. 11 10. 29 11 21 10. 79 13. 24 10. 31
Av, 1914–1920		9 91	9.35	9.39	9 31	9.14	9.63	9.66	9. 49	10.14	11.05	10.90	9.78
1921–22	8, 82	9.00	8 10	7.75	7.38	7 32	6.78	7.84	7.55	7.60	8.00	7.65	7.82
			NEW	YOR	K—WI	NTEI	R PAT	PENTS	3 ²				
1909–10 1910–11 1911–12 1912–13 1913–14	\$6 52 5. 44 4 68 5 79 5 58	\$6. 28 5 36 4. 67 5 28 5. 42	\$5 43 5 07 4.71 5 34 4 89	\$5 77 4 92 4 90 5 33 4 91	\$5.78 4.81 4.90 5.33 4.90	\$5.74 4.88 4.90 5.33 4.90	\$5 96 5. 02 4. 96 5 55 4. 92	\$5. 95 4 92 5. 06 5 75 4 97	\$5.96 4.78 5.08 5.44 5.00	\$5, 82 4 63 5 32 5, 50 4 88	\$5 74 4.67 6.00 5.50 5.00	\$5, 40 4, 65 6, 00 5, 54 4, 98	\$5. 86 4. 93 5. 10 5. 47 5. 03
Av., 1909–1913		5 40	5.09	5 17	5.14	5. 15	5. 28	5 33	5, 25	5, 23	5 38	5.31	5. 27
1914–15 1915–16 1916–17 1917–18 1918–19 1919–20 1920–21	4. 90 6 48 5 63 11 72 11 35 11 11 12 46	5 22 6.62 7.34 11.12 10 71 10.53 11.20	5. 81 5 68 7 86 10. 94 10 40 10. 52 11 22	5. 80 5. 89 8 30 10. 64 10 28 10. 22 10. 14	5 80 5 90 8 90 10.51 10.25 10.18 9.38	5 86 6.20 8.60 10 45 10 53 10.68 8 82	6 79 6.70 9 09 10 44 10 48 10 99 8.87	7. 88 6 62 8 87 10. 43 10 25 10. 98 8. 36	7. 56 6. 28 9. 53 10. 91 10. 55 10. 91 8. 15	7. 39 6. 24 11. 41 11. 00 11. 40 11. 47 7. 00	7. 55 5. 91 14. 57 10. 98 11. 38 12. 90 7. 09	6. 64 5. 48 12. 98 10. 98 11. 19 13. 67 7. 39	6. 43 6. 17 9. 42 10. 84 10. 73 11. 18 9. 17
Av., 1914-1920	9 09	8.96	8, 92	8.75	8.70	8.73	9.05	9 06	9.12	9 42	10.05	9.76	9.13
1921–22	6.50	6.24	6.32	6, 02	5. 73	5. 68	6.00	6.66	6 99	6 57	6.32	5. 93	6. 25
			NEW	YOR	K—SP	RING	PAT	ENTS	.3				
1909–10	6. 45 6 05 5. 13 5. 51 4 98	6 31 5 78 5, 36 5, 37 4, 98	5 62 5. 71 5. 44 5. 11 4. 75	5 51 5 52 5. 42 4. 87 4. 50	5, 56 5, 33 5, 45 4 80 4 52	5, 63 5, 40 5, 22 4, 60 4, 56	5, 80 5, 46 5, 42 4, 66 4, 61	5 76 5 25 5. 43 4. 70 4. 76	5. 82 5 08 5. 40 4. 80 4. 90	5. 66 5. 02 5. 54 4. 66 4. 66	5 62 5. 23 5. 88 4. 89 4. 72	5. 42 5. 10 5. 73 4. 95 4. 79	5. 76 5. 41 5. 45 4. 91 4. 73
Av., 1909-1913	5 62	5. 56	5 33	5. 16	5. 13	5 08	5, 19	5.18	5. 20	5.11	5. 27	5, 20	5. 25
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	4. 59 6. 82 6. 09 12 32 11 41 12, 12 13 93	11. 26 12. 35	11 07 11.73	5. 78 5. 58 8. 94 11. 31 10. 92 12. 20 11. 34	5 88 5, 62 9, 69 10, 93 10, 82 13, 11 9, 77	6. 02 6. 10 8. 99 10 86 10. 90 14. 25 9. 12	7 03 6.69 9.49 10.63 10 64 14.49 9.58	7. 78 6. 64 9. 06 10. 63 10. 69 13 25 8. 98	7.41 5.99 9.80 10.94 11.27 13.07 8.82	11.00 12.09	7. 79 6. 27 14. 99 10. 98 12. 51 14. 83 8. 61	6. 50 5. 78 13. 68 10. 98 11. 93 14. 20 9. 07	6. 52 6. 26 9. 88 11. 23 11. 29 13. 29 10. 27
Av., 1914-1920	9 61	9.95	9.74	9.44	9. 40	9. 46	9.79	9.58	9.61	10.10	10.85	10.31	9.82

¹ Compiled from Chicago Board of Trade and Daily Trade Bulletin. ² Compiled from New York Journal of Commerce.

9.03 8.48

1921-22

Table 48.—Wheat: Monthly and yearly average prices per bushel of 60 pounds of Barletta ¹ at Buenos Aircs, 1912–1922.²

Year.	Jan.	Feb	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov	Dec	Yearly aver- age.
1912 1913	\$1.01 .91	\$1.00 1.00	\$1.00 .93	\$1 03 .99	\$0.96 .95	\$0 99 1 02	\$0 99 1.02	\$1 01 1 01		\$1 01 11 02		\$0 92 . 35	\$0.99 1.00
1914 1915 1916 1917 1918 1919	. 95 1. 26 1 05 1 65 1 56 1. 31 1. 65	. 99 1 42 1. 66 1. 61 1. 55 1. 31 1 75	.98 1.39 .96 1.67 1.58 1.27 2.02	. 95 1. 44 . 95 1 72 1. 59 1 27 2 55	1. 01 1. 48 . 85 2 00 1. 57 1 33 2 70	.99 1.35 .83 2 21 1.56 1.34 2 58	1 01 1.33 .84 2.23 1 50 1.82 2.85	1. 22 1 29 1 06 2 02 1 41 1. 94 2 43	1 23 1.31 1.19 2 00 1 42 1 85 2 48	51 12 1.36 1 49 2 02 1.41 1 66 2 58	1.31 1.71 2.10 1.46 1.71 42.75	1. 22 1. 20 1. 48 1. 79 1. 49 1. 63 1. 86	1. 08 1. 35 1. 13 1. 02 1 51 1. 54 2. 36
Av., 1914-1920	1.35	1.39	1. 41	1 50	1.58	1 55	1, 65	1 62	1 64	1 66	1 76	1 52	1.55
1921	1 76 1 04	1. 58 1. 26	1. 62 1. 32	1 16 1.30	1 48 1.32	1 50 1 22	1. 45 1. 27	1. 43 1. 20	1 50 1.16	1. 22 1. 22	1 05 1.20	1 05 1 22	1 43 1.23

Table 49.—Wheat Spot prices per bushel of 60 pounds at Karachi, India, 1912 to 1922.

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly aver- age.
1912 1913	\$0.90 .92	\$0. 94 . 97	\$0.94 .97	\$0.96 .93	\$0.93 .92	\$0. 89 . 90	\$0. 88	\$0. 89 . 87	\$0.88 .87	\$0. 89 . 86	\$0. 89	\$0. 89	\$0.91 .91
1914. 1915. 1916. 1917. 1918. 1919.	. 91 1 27 1 09 1. 19 1. 22 1. 82 2. 12	. 93 1 43 1 03 1 14 1. 23 1. 82 2. 09	. 91 1. 22 . 97 1. 13 1. 24 1. 91 1 91	. 92 1. 21 . 89 1. 12 1. 24 1. 78 1. 90	. 94 1. 07 . 88 1. 04 1. 25 2. 07 1. 74	.91 1.02 .86 1.05 1.23 2.01 1.62	.90 1,02 .95 1,08 1,26 2,06 2,1,49	. 96 1. 06 1. 05 1. 07 1. 31 2. 16 21. 35	1. 08 1. 12 1. 03 1. 14 1. 41 2. 14 1 34	1 09 1.10 1.04 1 13 1.57 1.93 1.36	1. 22 1. 09 1. 10 1 22 1. 61 2 04 1. 32	1. 23 1 07 1. 15 1. 26 1. 63 2. 16 1. 22	1.00 1.14 1.00 1.13 1 35 1 99 1.62
Av., 1914–1920	1 37	1.38	1.33	1. 29	1. 28	1. 24	1. 25	1. 28	1.32	1.32	1. 37	1.39	1.32
1921 1922	1 28 1.50	1. 29 (³)	1. 26 (³)	1. 26 (⁸)	1. 33 1. 36	1.31 1.36	1. 29 1. 25	1. 52 1. 22	1. 86 1. 11	1.73 .89	1 57 .91	1.60 1.17	1. 44 1. 20

¹ Compiled from Indian Trade Journal. Converted at par of \$0.3244 per rupee to 1919, and current exchange rate as given by Federal Reserve Board Bulletins 1919 to date.
² First week of month, from Review of the Trade of India.
³ Not quoted.

Barletta is a semihard wheat.
 International Yearbook of Agricultural Statistics, 1922, for prices and mouthly exchange rates. Exchange after July, 1921, from Federal Reserve Board Bulletin.
 No. I Rosanto wheat.
 Description "Pan."

⁵ New clop.

Table 50.—Wheat: Yearly prices in England, 1259 to 1921.

In the accompanying tabulation of wheat prices in England the figures represent cents per bushel, the original quotation having been reduced to equivalent American units. Prices between 1261 and 15-0 are derived from figures taken from J. E. T. Rogers's work on Agriculture and Prices. The prices are taken from sales or purchases at all times of the year and from all parts or England. It is believed that payments were made by weight up to the time that Elizabeth reformed the currency, but the money values have not been reduced from what are supposed to be their nominel to what are supposed to be their nominel to what are supposed to be their neal values. The prices from 1582 to 1771 are reduced from Oxford wheat prices, taken from Logd's collection (quoted in Rogers's work), obtained from the resister of the clacks of the Oxford market. 1772 to 1945, average price of British wheat, from the report of the Dritish Board of Agriculture and Fisherics. The number in the left-hand column added to the number at top of column will determine the year, thus 1600 plus 9 equals the year 1609.

	1200	1300	14	1500	1600	1700	1800	1900 1
0		\$0.14 .15 .15 .12 .17 .15 .12	. 24 .12 .20 .15 .12 .11 .13 .14	\$0 18 . 25 . 24 . 19 . 15 . 15 . 16 . 17 . 12	\$0.87 .80 .73 .80 .75 .75 .73 .73 .13 1 33	\$1.00 .85 .74 .55 1.07 .81 .68 .69	\$3 43 3 63 2 12 1 79 1 89 2 73 2 41 2 29 2 47 2 296	\$0 83 . 83 . 83 . 86 . 96 . 98 . 93
0		.23 .21 .13 .15 .17 .25 .45 .48 .25 .14	. 27 . 15 . 15 . 13 . 13 . 19 . 24 . 16 . 21	.09 .12 .17 .27 .18 .14 .20 .16 .19 .18	1 21 . 82 . 91 1.10 1.18 1.17 1.05 1.19 1.15 . 90	1. 99 1. 99 1. 16 1. 22 1 32 1 08 1 127 1 12 93 93	3 24 2 90 3 85 3 34 2 26 1 99 2 39 2 95 2 62 2 27	1 12 96 1.06 1.06 1.06 1.77 2.25 2.18
20 21 22 22 23 24 24 25 25 26 27 27 28		.19 .35 .27 .22 .22 .17 .11 .12 .19	.19 .16 .13 .13 .15 .12 .12 .13 .27 .24	.28 .23 .19 .17 .15 .16 .19 .41 .28	.79 .77 1 41 1 37 1 16 1.24 1.18 .92 .76 1.04	. 85 . 89 . 87 . 85 . 91 1. 13 1 28 1. 10 1. 50 1. 38	2.06 1 71 1 36 1 62 1 94 2.08 1.78 1.78 1.84 2.02	2 45
0		. 22 . 24 . 14 . 13 . 12 . 16 . 15 . 11 . 10	.18 .14 .21 .18 .16 .17 .16 .28 .45 .23	. 22 . 25 . 24 . 23 . 21 . 31 . 32 . 21 . 21 . 17	1. 39 1. 57 1. 27 1. 32 1. 30 1. 26 1 32 1. 30 1. 41 1. 07	. 94 . 72 . 67 . 70 . 91 1. 07 1. 12 1. 07 . 84 . 95	1. 95 2 02 1. 78 1. 61 1. 40 1. 20 1. 48 1. 70 1. 96 2. 15	
10		.11 .12 .17 .11 .11 .21 .20 .13	.12 .12 .12 .13 .12 .19 .18 .16 .17	.17 .27 .24 .28 .27 .47 .25 .15	1. 09 1. 21 1. 01 1. 21 1. 00 1. 16 1. 37 1. 59 1. 78 1. 88	1. 44 1. 30 . 85 . 63 . 65 . 66 . 92 . 92 . 88 . 90	2. 02 1. 96 1. 74 1. 52 1. 56 1. 55 1. 66 2. 12 1. 35	
50 51 52 52 53 54 55 56 57	\$0 17	. 25 . 31 . 22 . 13 . 16 . 18 . 18 . 21 . 17	. 20 . 20 . 17 . 15 . 12 . 16 . 15 . 17 . 17	. 54 . 71 . 32 . 30 . 56 . 66 . 85 . 25 . 28	1. 64 1. 48 1. 17 . 78 . 60 . 84 1. 07 1. 17 1. 55 1. 59	. 86 . 99 1. 07 1. 13 . 97 . 80 1. 15 1. 81 1. 42 1. 04	1. 22 1. 17 1. 24 1. 62 2. 20 2. 27 2. 10 1. 71 1. 23 1. 33	

¹ Wheat prices in England and Wales, 1916 to 1921, taken from Broomhall's Corn Trada Yaar Rook

Table 50.—Wheat: Yearly prices in England, 1259 to 1921—Continued.

	· · · · · · · · · · · · · · · · · · ·							
	1200	1300	1400	1500	1600	1700	1800	1900
60 61 62 63 64 65 66 67 68 69 69	\$0. 14 . 13 . 18 . 12 . 13 . 10 . 13 . 13 . 16 . 15	\$0. 19 . 16 . 23 . 20 . 22 . 18 . 20 . 26 . 20 . 36	\$0. 21 .22 .13 .11 .12 .14 .16 .16 .17 .19	\$0. 43 . 47 . 33 . 59 . 33 . 32 . 49 . 33 . 34 . 35	\$1. 40 1 65 1. 88 1. 30 1. 26 1. 15 . 87 . 89 1. 00 1. 16	\$0. 89 . 73 . 90 . 99 1. 20 1. 39 1 23 1 90 1. 71 1. 33	\$1.62 1.68 1.69 1.36 1.22 1.27 1.52 1.96 1.94	
70	.19 .21 .19 .16 .20 .15 .19 .15	. 28 . 21 . 24 . 19 . 26 . 23 . 14 . 11 . 11	.17 .17 .12 .12 .14 .16 .15 .20 .20	.30 .37 .39 .79 .43 .48 .67 .61	1. 05 1 02 1. 09 1. 32 1. 86 1. 35 . 87 1. 06 1. 43 1. 34	1. 49 1 52 1. 59 1 60 1. 65 1. 52 1, 20 1. 43 1. 32 1 05	1. 43 1. 72 1 73 1. 78 1. 70 1. 37 1. 40 1. 73 1. 41 1. 33	
80	.15 .18 .18 .21 .15 .16 .14 .09 .09	. 19 . 17 . 16 . 15 . 17 . 15 . 12 . 10 . 11	.18 .26 .31 .22 .16 .14 .16 .17 .17	. 50 . 49 . 56 . 52 . 47 . 63 . 96 . 84 . 43 . 59	1.06 1.17 1.06 1.06 1.10 1.10 .80 .86 .69	1. 12 1 40 1. 50 1. 65 1. 53 1. 31 1. 22 1. 29 1. 41 1. 60	1. 35 1 38 1. 37 1. 26 1. 08 1. 00 . 94 . 99 . 97	
90	. 19 . 17 . 16 . 25 . 27 . 20 . 14 . 16 . 16	. 26 . 16 . 10 . 11 . 12 . 15 . 18 . 17 . 16 . 17	. 15 . 20 . 13 . 12 . 14 . 12 . 16 . 15 . 16	.69 .61 .50 .55 .96 1.16 1.39 1.71 1.14	. 88 . 90 1. 19 1. 69 1. 53 1. 32 1. 41 1. 62 1 74 1. 69	1. 67 1. 48 1. 31 1. 50 1. 59 2 29 2. 39 1. 63 1. 53 2. 10	. 97 1. 13 . 92 . 80 . 69 . 70 . 80 . 92 1. 03 . 78	

Table 51.—Wheat: Monthly and yearly average price per bushel of 60 pounds at Port Adelaide, Australia, 1912 to 1921.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly aver- age.
1912 1913	\$0. 88	\$0.87 .86	\$0.88 .86	\$0.96 .89	\$0.96 .88	\$0.9 8	\$0.96 .786	\$0.96 .87	\$0.99 .86	\$1.00 .84	\$0. 96	\$0.86 .84	\$0.94 .86
1914	. 86 1. 48 1. 13 1. 14 1. 14 1. 14 1. 19	. 87 1. 65 1. 14 1 14 1. 14 1. 19 1. 29	.90 1.74 1.14 1.14 1.14 1.18 1.45	. 90 1. 76 1. 14 1. 14 1. 14 1. 16 1. 50	. 92 1 80 1. 14 1. 14 1 14 1. 16 1. 48	. 93 1. 81 1. 14 1. 14 1. 14 1. 15 1 51	. 93 1. 82 1. 14 1 14 1 14 1. 11 1. 48	1.00 1 79 1 14 1.14 1.14 1.07 1.39	1. 12 1. 78 1. 14 1. 14 1. 14 1. 05 1 35	1. 14 1. 41 1. 14 1. 14 1. 14 1. 15 1. 33	1. 21 1. 05 1. 14 1. 14 1. 14 1. 12 1. 31	1.40 1.23 1.14 1.14 1.14 1.13 1.34	1.02 1.61 1.14 1.14 1.13 1.38
Av., 1914–1920	1.15	1.20	1,24	1.25	1.25	1.26	1.25	1.24	1.25	1.21	1.14	1.22	1.22
1921	1.69	1.74	1.76	1.77	1.79	1.70	1.63	1.64	1.68	1.74	3 1.79	³ 1.87	1.73
	1	1	1		1	1	1	i	3	1	1	3	

¹ Compiled from Statistical Register of South Australia, 1920-21.
2 The prices from 1916 to 1920 are those fixed for home consumption, the average prices on the whole transaction of the Wheat Harvest Board during each year being 1916, \$1.13; 1917, \$1.14; 1918, \$1.14; 1919, \$1.31; 1920, \$1.70; and 1921, \$1.52.
2 These prices for old wheat; new wheat price November, \$0.93, December, \$1.02.

Tiele 52.—Wheat: "World" visible supply 1st of such month, flour included, 1892-83 to 1921-22.

A												
Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.
1892-93 1893-94 1891-95 1895-96	183,744 173,012	178, C73 174, 492	183, 845 189, 549	195, 713 205, 151	1,000 bush 196, 271 220, 724 220, 788 209, 858	235, 389 218, 857	232,035 227,975	232, 978 223, 496	222, 391 212, 446	216, 545 198, 047	206, 914 186, 523	195, 763 171, 169
	136, 456 88, 740	124, 293 77, 900	126, 487 87, 073	152, 972 119, 635	190, 761 139, 313	202, 330 156, 516	184, 618 157, 009	173, 498 152, 042	155, 505 140, 571	139, 011 132, 038	121,490 111,229	
Av , 1892-93 to 1898-99	137, 302	129, 410	135, 924	157, 076	183, 514	199, 901	201, 583	194, 957	186, 187	176, 128	163, 248	153, 381
1900-1901 1901-2 1902-3	149, 841 142, 417 105, 827	150, 193 138, 201 91, 973	164, 629 146, 030 103, 484	188, 200 165, 149 135, 540	191, 191 200, 715 177, 395 174, 035 164, 389	203, 237 210, 024 185, 729	211, 064 208, 598 175, 482	201, 161 210, 494 173, 678	204, 353 199, 700 170, 558	197, 013 183, 323 155, 562	135, 436 158, 732 135, 126	160, 498 133, 173 120, 373
1.906-7	133, 702 164, 849	131, 789 155, 351	145, 473 161, 038	182, 924 163, 814	185, 161 170, 679 207, 959 181, 549 176, 246	219,048 181,342	220, 457 181, 938	208,662 185,004	193,837	207, 620 189, 089	162,620	190, 351 128, 899
Av ,1899-1900 to 1905-9	128, 974	122, 326	132, 387	159, 611	182, 932	196,072	195, 230	189, 997	189, 878	181, 522	- 159, 660	142, 733
1911–12 1912–13	151,664 $152,266$	164, 547 120, 007	172, 913 132, 385	191, 474 165, 377	176, 969 237, 558 227, 789 213, 026 228, 792	240, 490 239, 736	243,399 $245,099$	229, 099 251, 665	190, 189 $273, 077$	231, 157 207, 502	214,721 $224,642$	187, 416 138, 773
Av , 1909-10 to 1913-14	134, 344	126, 532	144, 649	174,608	216, 827	229, 022	230, 614	232, 589	231, 935	222, 990	194, 375	157, 018
1915–16 1916–17	118, 046 280, 461	93, 401 249, 909	93, 972 249, 539	127, 207 251, 204	2.34, 041 200, 565 276, 715 264, 823	246, 005 292, 596	291, 145 315, 880	319,341 308,490	281, 758 288, 093	356, 797 269, 031	326, 411 291, 164	314,096 236,985
1919–20	287,278	306,600	345, 636	380, 935	490, 099 378, 392 214, 569	360,972	322,739	280.324	280.305	248.870	239, 908	1238.791
Av., 1914-15 to 1920-21	210, 833	211, 126	222, 052	252, 385	294, 172	298, 734	301,842	301, 220	293, 689	297, 866	274, 934	247, 779
1921-22	163,062	164, 377	206, 738	221,740	254, 683	247, 365	233, 412	212, 190	272, 921	260, 248	223, 483	190, 133

¹Includes "afloat" for United Kingdom, for Continent, and for orders; "in store" in United Kingdom, France, Germany, Belgium, Holland, Russia, Canada, and United States 1892 to 1900. Argentina added in 1901, Australia in 1905. Since February, 1916, France, Germany, Belgium, Holland, and Russia omitted

Table 53.—Wheat: Monthly and yearly receipts and shipments, 11 primary markets, 1909-10 to 1931-29.1

			·				-					,
,	Chi- cago.	Mıl- wau- kee.	Min- neap- olis.	Du- luth.	S ¹ Louis.	To- ledo.	De- troit.	Kan- sas City.	Peoria	Oma- ha.	Indon- apolis	Total.
YEAR. 1909-10: Receipts Shipments.	1,000 bush 27,542 20,586	1,000 bush 8,482 2,757	1,000 bush. 92,733 20,546	1,000 bush 51,687 50,2×0	1,000 bash 22,064 19,622	1,000 bush 4,426 1,474	1,000 bush 1,821 167	1,000 bush 31,092 22,057	1,000 bush 1,304 1,002	1,600 bush. (2) (2)	1,000 bush. (2) (2)	1,000 bush 247, 251 138, 491
1910-11: Receipts Shipments. 1911-12:	27, 400 17, 259	10,062 7,875	90, 774 20, 866	28, 628 25, 352	20, 127 20, 082	4, 122 1, 556	2, 093 105	40, 537 26, 709	1,225 1,074	(2)	(2) (2)	224, 878 120, 938
Receipts Shipments. 1912-13:	35, 563 30, 003	8, 497 3, 411	96, 889 52, 745	30, 598 25, 571	15, 336 12, 790	6, 930 4, 644	2, 861 401	23,627 16,970	1,518 1,106	11,030 9,690	176 173	233 025 157, 504
Receipts Shipments. 1913-14:		10,337 5,683	126, 161 32, 761	83, 530 75, 435	27, 179	4, 734 2, 1 75	977 713	48, 374 33, 415		20, 193 13, 133	1,560 162	380, 779 236, 261
Receipts Shipments.	50, 884 47, 905	6,372 3,442	103,679 28,994	62, 799 64, 799		5, 802 3, 704	1, 442 842	32, 152 23, 730	1,629 1,424	16, 453 11, 958	1,898 812	310, 3° 1 209, 852
Av., 1909-10 to 1913-14: Receipts Shipments.	37, 111 31, 816	8,750 4,431	102,067 31,182	52, 018 48, 287	21, 713 20, 383	5, 203 2, 771	1, 821 446	35, 756 24, 576	1, 525 1, 214	15, 592 11, 594	1, 211 482	286, 097 177, 215
1914-15: Receipts Shipments. 1915-16:	107, 708 91, 112	9,530 7,010	112,716 39, م	62, 268 59, 867	34, 196 26, 913	7, 089 4, 168	2, 763 2, 012	77, 745 65, 650	3, 7×6 3, 527	17, 767 11, 639	3, 628 916	438, 616 311, 324
Receipts Shipments 1916-17:	85, 819 61, 531	3, 505	163, 202 54, 932			9, 965 5, 571	2, 809 1, 580	70, 442 51, 632	4, 503 5, 336	25, 613 16, 213	1,967	512, 141 315, 855
Receipts Shipments 1917–18:	56, 708 47, 342	8,099	119, 701 39, 689	30, 978 36, 789	1	5, 719 2, 590	2,724 1,082	68, 720 62, 878		31, 191 29, 221	929	373, 123 264, 167
Receipts Shipments. 1918-19:	13,735 8,118	13, 138 1, 336	19, 072	16,602 13,646	17, 023 13, 234	4, 583 1, 379	1,597 260	8, 255	2, 195 1, 422	8, 565 6, 096	1, 192	184, 883 74, 010
Receipts Shipments. 1919-20	54, 533 67, 122	}	117, 787 38, 174		42, 547 25, 621	5, 940 1, 348	1,608 306	51, 106 35, 696	3, 405 3, 371	19, 730 15, 115	2,080	410, 051 288, 340
Receipts Shipments. 1920-21:	74, 167 57, 215	3,674	37, 468	18, 317 13, 664		8, 046 2, 285	1,688 289	92, 215 55, 673	3,663 4,285	26, 585 21, 992	1, 340	403, 84 3 230, 841
Receipts Shipments.	30, 615 27, 886	4, 424 2, 556	118, 579 50, 724	45, 083 43, 272	45, 316 31, 479	5,052 1,400	1,656 149	87, 148 64, 637	2, 199 2, 011	28, 192 24, 372	4, 491 458	372, 755 248, 914
Av., 1914-15 to 1920-21: Receipts Shipments.	60, 469 51, 461	9, 655 5, 536	119, 090 39, 938	51, 044 48, 101	38, 227 27, 761	6, 628 2, 677	2, 121 811	67, 512 49, 203	3, 260 3, 203	22, 521 17, 807	4,600 1,269	385, 127 247, 767
1921–22; ³ Receipts Shipments.	51, 548 45, 803	9,676 7,464	105, 343 43, 237	49, 226 49, 843	39, 009 29, 404	6,753 3 622	1, 578 234	90, 574 69, 085	2, 564 1, 709	25, 310 25, 559		385, 637 276, 850
MONTHS.				ĺ								
July. Receipts	14,070	1,442	7,043	2, 263 2, 667	8, 932	943	159	17, 115	414	5, 529	1,790	59,700
August: Receipts	3, 921 13, 270 18, 390	949 2,893	3, 938 15, 036	6, 192	3, 622 7, 159 4, 762	91 1,063	5 187	7,610 15,675	378 983	2, 671 5, 874	347 587	26, 202 68, 919
Shipments. September: Receipts	3, 297	4, 023	5, 556 13, 208	4, 300 12, 567	4, 207	189 595	103	9, 271	290 235	3, 399	133 191	51, 474 51, 096
Shipments. October: Receipts Shipments.	4,478 1,956 1,836	1,415 515 356	8, 163 16, 668 5, 570	13, 667 8, 705 7, 748	3, 922 3, 589 3, 234	381 656 265	71 139 10	8,411 7,434 6,847	230 93 74	4,092 2,046 2,273	147 213 62	44, 977 42, 014 28, 275
November Receipts Shipments.	1, 157 2, 074	104 495	8, 870 2, 840	5, 523 7, 681	1, 585 1, 506	1,776 639	93 27	4, 361 3, 672	89 65	637 1,026	147 61	24, 342 20, 086
December: Receipts Slupments.	795	103 83	8, 180 2, 264	2, 851	1,705	470 478	129 23	6, 288 3, 243	59 59	921 1,004	115 24	21,616
1 Compiled from								,				

Tiable 53.—Wheat: Monthly and yearly receipts and shipments, 11 primary markets 1909-10 to 1921-22—Continued.

	Chi- cago.	Mil- wau- kee.	Min- neap- olis.	Du- luth	St. Louis.	To- ledo	D:- troit.	Han- sas City.	Peorla	Oma- ha.	Indian- arolis	Total
MONTHS.												
1921-22. January: Receipts Shipments. February	1,000 bush 702 637	1,000 bush. 68 171	1,000 bush. 7,799 2,375	1,000 bush 850 312	1,000 bush 1,501 1,562	1,000 bush 126 158	1,000 bush. 151 26	1,009 bush. E,354 4,052		1,000 bush 822 1,152	1,067 busn 116 18	
Receipts Shipments. March	1,393 918	114 135				313 393	$\frac{152}{7}$	7,781 4,511	145 127	1,593 1,112		21, 31 11, 22
Receipts Shipments. April:	1,229 1,284	66 132	7,018 3,270			217 232	155 23	2, 981 4, 935		1,00°, 1,07±	152 48	15, 61 13, 8.
Receipts Supments. May	2,103 1,063	121 128	3, 562 1, 460		1, 2 ¹ 2 1, 151	133 138	100 9	2, 871 3, 231		901 1,187	164 21	12.51 8,81
Receipts Shipments. June	9,414 3,002	117 208	5, 314 2, 531	2, 707 6, 221	2, 559 2, 231	275 347	125 9	5, 385 7, 291	85 91	2, 049 3, 025		£8, 20 21, 97
Receipts Shipments.	2,162 7,500	110 139	5, 455 3, 139	3, 106 3, 429	1, 527 1, 771	154 191	81 12	5, 051 4, 144	32 83	527 459		18, 40 20, 87

Table 54.—Wheat: Visible supply in United States, first of each month, 1889-90 to $1921-2?.^1$

					10~1	~						
Year	July.	Aug.	Sept.	Oet.	Nov.	Des.	Jan.	Feb	Mar	Apr.	May.	June
1859-90 1890-91 1891-92 1892-93 1893-94	19,638 12,583	18, 463 16, 768 23, 992		1.900 bush. 18,849 17,059 27,895 47,901 60,528	21, 235 36, 232 61, 694	1,000 bush. 33,178 24,570 41,678 72,580 78,091	25 603 45, 308	23, 592 43 118 81, 487	22, 926	22, 483 41, 036 77, 654	37, 936 75, 027	16,47 29 52 71,08
1894-95 1895-96 1896-97 1897-93 1898-99	44, 561 47, 199	57, 144 38, 517 46, 754 17, 814 9, 093	66, 949 35, 438 45, 574 14, 817 7, 147	71, 413 40, 768 50, 116 21, 104 11, 263	58, 680 26, 974	31,845	69, 842 54, 651 38, 816	66,731 49,591 36,602	61, 089 43, 797 34, 038	38, 612 30, 223	55, 519 34, 412	50, 04 26, 89 23, 67
Av, 1889-90 to 1898-99	31, 946	30, 058	31, 464	36, 690	44, 835	51, 443	54, 509	52, 447	49, 879	47, 291	42,752	37,72
1899-1900	30, 793	21,972	34, 768 50, 294 27, 790 20, 966 13, 203	42, 143 55, 409 35, 304 25, 624 19, 489	41, 192	55,778 62 179 52,396 45,082 30,140	59,928 49,738	57,929 48,447	54, 084 57, 234 54, 093 47, 807 35, 509	54, 204 54, 749 49, 615 41, 958 31, 727	52, 472 46, 668 38, 328 33, 456 30, 357	36,93 28,60
1904-05 1905-06 1906-07 1907-08 1908-09	14, 274 25, 892	48,318	12, 814 12, 140 30, 054 49, 459 16, 297	17, 576 17, 896 33, 352 43, 750 29, 924	28, 339 37, 972 43, 683	36, 860 36, 493 41, 557 43, 477 43, 973	45, 333 45, 768 48, 481	48,537 44,857 46,711	36, 528 47, 283 41, 584 42, 906 38, 213	32, 327 46, 468 47, 208 58, 087 36, 142	51, 999 30, 318	30, 81 49, 72 22, 81
Av., 1899-1900 to 1908-09	26, 268	27, 017	26,779	32, 047	38, 974	45, 294	44, 761	48, 463	45, 863	43, 349	38, 018	29, 95:
1909-10	9, 756 12, 034 23, 833 23, 350 30, 163	41, 316	8, 362 26, 452 48, 057 19, 5% 44, 530	19, 442 31, 967 52, 709 31, 658 49, 026	27, 001 40, 120 65, 199 41, 712 55, 105	29, 417 42, 989 69, 948 55, 400 58, 868	27, 738 44, 282 70, 489 65, 342 63, 743	64,913	25, 515 39, 868 57, 080 63, 786 57, 021	29, 015 34, 152 51, 042 58, 996 51, 862	26, 228 27, 605 41, 722 47, 157 43, 378	20, 135 26, 835 30, 845 37, 946 20, 771
Av., 1909-10 to 1913-14	19, 827	23, 564	29, 397	37, 560	45, 827	51, 324	54, 319	51, 172	48, 654	45, 013	37, 218	27, 10
1914-15 1915-16 1916-17 1917-18 1918-19	14, 999 7, 948 42, 628 14, 209 785	29, 744 6, 582 40, 889 5, 819 17, 155	31, 534 7, 111 54, 660 5, 058 48, 821	51, 586 15, 900 57, 418 7, 789 96, 886	60, 470	74, 086 48, 797 62, 026 21, 031 121, 561	72,861 67,311 59,534 17,552 119,711	60, 252 68, 458 48, 721 13, 869 130, 613	49,652 63,553 44,916 9,739 118,219	39, 323 57, 387 39, 317 5, 381 92, 546	26, 439 48, 864 25, 756 2, 194 49, 502	19, 085 41, 465 28, 896 1, 146 23, 705
1919-20 1920-21	8,681 17,777	20, 903 17, 487	56, 828 19, 554	84, 909 27, 391	96, 352 35, 500	89, 742 43, 149	75, 363 43, 063	60, 359 32, 555	50, 875 27, 822	45, 896 18, 463	42,784 13,489	37, 101 8, 334
Av., 1914-15 to 1920-21	15, 290	19,797	31,938	48, 840	59,771	64, 342	65, 056	59, 261	52, 115	42,618		
1921–22 1922–23	8,061 17,773	24,658 19,667	38, 741 27, 349		55, 595 32, 278		49, 468 37, 673	42, 280	40,055	35, 897	31, 281	26, 341

Table 55.—Wheat Yearly movements and local consumption at 11 primary markets, 1909-10 to 1921-22.

				a	Local con	sumption
Crop year	Supply at beginning of year.	Receipts.	Shipments.	Supply at end of year.	Bushels.	Per cent of total supply.
1909-10. 1910-11. 1911-12. 1912-13. 1913-14.	1,000 bush. 9,756 12,034 23,833 23,350 30,163	1,000 busL. 247, 251 224, 878 233, 025 380, 779 310, 354	1,000 bush. 138, 491 120, 938 157, 504 236, 261 209, 852	1,000 bush. 12,034 23,833 23,350 30,163 14,999	1.000 bush. 106, 482 92, 141 76, 004 137, 705 115, 666	41 39 30 31 34
Average, 1909-1913	19,827	279, 257	172, 609	20, 876	105, 599	. 35
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	14, 999 7, 948 42, 628 14, 209 785 8, 681 17, 777	438, 616 512, 441 373, 123 184, 883 410, 051 403, 843 372, 755	311, 324 315, 855 264, 167 74, 010 288, 340 230, 841 248, 944	7, 948 42, 628 14, 209 785 8, 681 17, 777 8, 061	134, 343 161, 906 137, 375 124, 297 113, 815 163, 906 133, 527	30 31 33 62 28 40
Average, 1914-1920	15, 290	385, 101	247, 639	14, 298	138, 452	35
1921-22	8,061	385, 637	276, 850	17,771	99, 077	25
					١.	ŀ

¹ Compiled from Chicago Trade Bulletin data Markets included are Chicago, Milwankee, Minneapolis, Duluth, St. Louis, Toledo, Detroit, Kansas City, Peoria, Omaha, and Indianapolis.

Table 56.—Wheat: Summary in per cent of carloads graded by licensed inspectors for yearly periods, all inspection points, total of all classes and subclasses under each grade.

1917-	-18	TO	1921.	-921

			Rece	opts.					Shipr	nents.		
Crop movement year.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	Sam- ple.	No. 1.	No. 2.	No. 3	No. 4.	No. 5	Sam- ple.
1917–18. 1918–19. 1919–20. 1920–21. 1921–22. Average, 1917–18 to 1921–22	P. ct. 23. 2 48. 2 7. 5 23. 3 14. 2	P. ct. 34. 4 32. 7 31. 8 36. 8 41. 6	P. ct. 22. 3 10. 2 31. 0 18. 9 22. 8	P. ct. 8.9 4.3 16.7 7.6 8.0	P. ct. 5.3 1.6 8.2 5.8 4.3	P. ct. 5. 9 3. 0 4. 8 7. 6 9 1	P. ct 23. 6 69. 1 5. 8 11. 3 6. 4	P. cl 34. 2 24 6 51. 7 70. 8 76. 2	P. ct 23.3 3.9 31.7 11.3 10.2	P. ct. 8. 5 1. 2 6. 8 2. 4 2. 3	P. ct. 5.7 .4 2.3 2.2 1.4	P. ct. 4. 7 . 8 1. 7 2. 0 3. 5 2. 5
	JULY	7, 1921	, TO	JUNE	, 1922,	BY (CLASS	ES.				
Hard red spring. Durum Hard red winter. Soft red winter. Common white. White club. Mixed.	28.9 13.3 12.7 4.9 13.6 16.6 12.7	15.6 50.5 49.3 29.7 55.8 59.2 45.1	25. 5 20. 2 19. 6 32. 5 22. 2 21. 7 22. 9	18.5 9.8 3.8 13.3 5.1 1.3 6.8	8.7 4.4 3.2 5.1 1.1 .2 3.6	2.8 1.8 11.4 14.5 2.2 1.0 8.9	28. 0 5. 4 3. 6 . 6 6. 3 5. 4 2 2	44.3 82.7 84.1 69.7 88.8 91.1 79.0	16.9 6.8 6.9 20.4 3.6 .5 8.7	7.8 2.9 .9 2.9 .5	1. 9 1. 8 1. 0 1. 6	1.1 .4 3.5 4.8 .8

¹ Compiled from United States Department of Agriculture data.

Table 57. Wheat: Supply and distribution in the United States, 1900 to 1922.1 [In millions of bushels, 1 e., 000,000 omitted, except as noted.]

		,,	,	,			
				Supply.			
	July 1, c	arry over	from previ	ous year.			
Year.	A	В	С		E	F	G.
	Commercial visible supply.	In country mills and elevators.	In farm- ers' hands.	D Total.	Total crop.	Iniports.2	Total supply.
1900. 1901. 1902. 1903. 1904.	46 31 20 16 14	39 29 26 19 21	51 31 52 43 37	136 91 98 78 72	603 789 725 664 597	630 121 1,080 218 3,286	740 880 824 742 672
1905 1906 1907 1908	14 26 47 15	19 29 33 20	24 46 55 34	57 101 135 69	727 757 638 645	262 590 520 457	784 859 7 7 4 715
Average, 1900-1908	25	26	41	93	683	796	777
1909. 1910. 1911. 1912. 1913.	10 12 24 23 30	18 37 34 31 25	15 36 34 24 36	43 85 92 78 91	700 635 622 730 764	815 1,147 3,414 1,282 2,381	744 721 717 809 857
Average, 1909-1913	20	29	29	78	690	1,803	770
1914 1915 1916 1917	16 8 43 15	28 18 46 17	32 29 74 16	76 55 163 48	891 1,026 637 637	705 7,188 24,925 31,215	968 1,088 825 716
1918 1919 1920	1 9 18	8 19 36	8 19 50	17 47 101	921 968 833	11, 289 5, 496 57, 398	949 1,021 994
Average, 1914-1920	16	24	33	73	844	19,745	937
1921 1922	8 18	26 28	57 32	91 78	795	17, 252	903
			Γ	Distribution	1.		
Year	H Seeding.3	I Exports.	Carry over June 30 to following year.	Esti- mated consump- tion.	Esti- mated farm sales.	Stocks on farms Mar. 1, follow- ing.2	Stocks in mills and ele- vators, Mar. 1.2
1900. 1901. 1902. 1903. 1904.	75 75 77 73 74	216 235 203 121 44	91 98 78 72 57	358 472 466 476 495	548 694 657 598 535	128,098 173,353 164,047 132,608 111,055	
1905 1906 1907 1908	74 73 73 70	98 147 163 115	101 135 69 43	511 504 469 487	630 675 586 594	158,403 206,642 148,721 143,692	
Average, 1900–1908	74	149	83	471	613	151, 846	
			1	,	1	,	,

¹ Compiled from United States Department of Agriculture data.
2 In thousands of bushels.

Illinois Missouri

Nebraska

Washington.

WHEAT-Continued.

Table 57.—Wheat: Supply and distribution in the United States, 1900 to 1922—Con.
[In millions of bushels, i. c., 000,000 omitted, except as noted.]

bearing the second seco	1	,					
			1	Distributio	n.		
Year.	H Seeding.	I Exports.	Carry over June 30 to following year.	K Esti- mated consump- tion.	Esti- mated farm sales.	Stocks on farms Mar. 1, follow- ing.	Stocks in mills and ele- vators, Mar. 1.
1909 1910 1911 1911 1912 1913	75 89 79 78 82	88 69 80 113 146	85 92 78 91 76	496 480 430 497 553	588 564 561 530 660	159,100 162,705 122,041 156,471 151,795	98, 597 95, 710 118, 400 93, 627
Average, 1909-1913	79	105	81	501	582	150, 422	101,583
1914 1915 1916 1917	93 85 88 97	332 243 204 133	55 163 48 17	488 597 183 469	804 850 620 560	152,903 244,448 100,650 107,715	85, 955 155, 027 89, 173 66, 138
1918 1919 1920	111 92 93	287 220 360	47 104 91	504 605 411	775 800 680	128,703 169,904 237,037	107, 037 123, 233 87, 075
Average, 1914-1920	94	255	75	513	727	163, 055	101,948
1921	94	279	78	452	744	131, 136	72, 564

Table 58.—Wheat crop classified by grades.

[Based upon estimate of about 5,000 mill and elevator operators.]

SPRING WHEAT.

No. 1. No. 2. No. 3. No. 4. No. 5. Below No. 5. State. 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1922 | 1920 | 1921 | 1921 | 1921 | 1922 | 1920 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 | 1921 |Wisconsin.. Minnesota... Iowa... North Dakota. South Dakota ... 7.3 11. 2 10. 1 14. 1 29. 6 37. 8 17. 1 26. 9 37. 7 15. 8 17. 4 64. 6 74. 7 84. 0 20. 7 18. 2 12. 1 10. 1 5. 6 3. 1 3. 1 1. 4 30. 8 70. 0 77. 4 27. 5 19. 3 19. 5 22. 5 10. 7 3. 1 15. 0 ... 33. 0 38. 3 35. 9 30. 5 37. 3 33. 2 19. 4 13. 8 22. 0 8. 7 7. 2 41. 7 ... 12. 2 2. 0 8. 7 7. 2 3.7 1.9 9.9 14.8 9.4 .5 .9 .1 0 3.9 6.1 4.7 1.5 3.030.9 5.5 1.5 Montana..... .3 Wyoming... Colorado... 1.4 6. 1 New Mexico 25. 933. 631. 051. 640. 144. 917. 217. 113. 3 5. 0 5. 6 4. 3 26. 937. 335. 549. 641. 549. 715. 713. 510. 9 3. 4 3. 8 2. 0 20. 0122. 0 7. 236. 442. 229. 628. 525. 930. 710. 9 5. 9 20. 0 45. 3 50. 0127. 6133. 9 37. 6138. 514. 1 9. 623. 2 4. 11 2. 3 6. 2 1.2 8 .3 3.4 1.8 2.7 3.1 1.2 1.0 3.3 2.0 Idaho... 9.2 2.5 2.6 1.1 Washington .. . 5 Oregon.... 1.8 United States.... 24. 0 24. 1 52. 1 20. 8 25. 6 26. 4 16. 6 24. 2 13. 5 12. 8 15. 1 5.311.8 7.9 2.014.0

WINTER WHEAT.

21. 423. 413. 142. 947. 045. 720. 921. 825. 4 9. 4 5. 910. 9 3. 5 38. 424. 2 6. 436. 239. 942. 016. 721. 534. 7 5. 9 9. 819. 0 2. 3 37. 436. 9 8. 942. 645. 444. 5 10. 7 14. 331. 1 2. 3 3. 011. 3 1. 0

7.9 8.1 7.7 6.7 13.1 9.2 7.1 12.9 13.0

8.022.819.0

2.9 1.7 2.0 2.4 2.3 1.3 1.2 3.1 1.0 1.6 4.1 1.0 2.0 8.2 1.0 5.0

1.3

4.2 3.5 9.2

1.6 3.8 3.3 7.8 0 2.7

13. 4 12. 3 12. 5 52. 2 48. 6 49. 5 22. 3 27. 5 26. 4 22. 4 6. 9 16. 4 48. 1 41. 0 44. 1 20. 1 33. 2 125. 9 22. 2 8. 3 10. 5 47. 8 43. 9 43. 2 19. 9 29. 4 27. 8 19. 7 3. 8 6. 2 47. 8 24. 2 28. 2 121. 1 35. 0 33. 7

TABLE 59.—Wheat (flour included): Monthly and yearly exports from the United States, 1909-10 to 1921-22.1

[In thousands of bushels, i. e , 000 omitted]

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total
1909-10 1910-11 1911-12 1912-13 1913-14	3,130 6,275 2,996	4,948 10,177 8,910	6,186 $10,700$	7,450 8,820 20,745	6,753 6,574 16,155	8,011 7,950 14,450	7,000 5,814 13,445	5,129 5.057 9 194	5,618 5 852 8,793	5 2 14 4, 92 3 10, 820	5, 853 4, 388 11, 178	3,950 3,146 9,148	87, 364 69, 315 79, 662 142, 567 145, 593
Average, 1909-1913	6,000	12,213	12,771	12,805	10,419	10,053	5, 157	6,088	6, 192	6,671	7,462	6,073	101, 931
1915-16 1916-17 1917-18 1918-19 1919-20	11,556 10,585 8,420 11,156 16,324 34,656	21,612 14,921 9,738 19,494 20,312 32,676	25, 230 18, 162 7, 180 28, 346 25, 628 34, 996	23,768 16,130 11,522 24,532 20,977 43,634	19, 264 19, 001 10, 616 21, 991 23, 396 30, 990	20, £18 18, 690 15, 300 33, 540 15, 428 30, 187	20, 855 21, 901 12, 448 22, 162 12, 271 27, 105	21,006 13,561 10,494 15,842 10,581 23,077	24, 071 12, 480 12, 203 20, 315 16, 880 20, 766	22, ±24 13, 504 12, 354 31, 150 13, 720 24, 800	20, 502 16, 219 10, 914 23, 304 25, 390 31, 624	12,223 21,357 11,375 22,653 21,752 32,192	332, 66 2.3, 113 203, 576 132, 580 257, 403 222, 562 366, 103 255, 402
1921-22 2	30, 113	55,963	38,950	25, 211	ιθ, 563	15,014	14, 982	10,991	14, 371	10,241	14, 267	18,200	279, 169

¹ Compiled from monthly summary of Foreign and Domestic Commerce.
² Prehimnary. Total, 279, 170, 670.

Table 60.—Wheat. Monthly exports, including flour, from countries named, expressed in per cent of year's total based upon 10-year averages, 1911-1920.

Country.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.	Total.
United States. Canada. Russia ² . Argentina. Australia.	P. ct. 6.7 5.8 5.4 5.5 12.1	P ct. 8.9 4.5 5.7 13.2 13.3	P. ct. 10.0 6.3 6.8 17.1 15.1	P. ct 9.7 5.0 9.4 15.0 11.3	P. ct 8.5 9.8 10.2 11.6 8.3	P. ct. 9.5 8.4 8.1 10.0 5.9	P. ct 8.4 7.3 6.3 8.1 5.9	P. ct. 6. 9 6. 3 9. 4 5. 6 5. 4	P. ct 7.3 4.3 11.8 4.1 6.6	P ct. 8.1 11.1 11.3 3.4 6.2	P ct 8.3 15.4 9.1 3.1 4.7	P. ct. 7. 7 15. 8 6. 5 3. 3 5. 2	P ct. 100.0 100.0 100.0 100.0 100.0

¹ Compiled from United States Department of Agriculture data.

Table 61.—Wheat: Imported into the United States from Canadu (flour not included), by months, 1913-14 to 1991-22.1

Year.	July.	Aug	Sept.	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
1913-14 1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 1921-22	1,000 bush 4 35 60 128 1,954 508 118 36 713	1,000 bush. (2) 69 441 394 1,398 24 28 170 239	1,000 bush. (8) 7 348 943 840 27 143 1,842 81	1,507 1,712 55 564 9,800	2,606 5,674 176 404	5 470 838 3,732 168 309 11,185	805 7, 339 39 753 4, 504	47 218 1,337 27 42 534 4,403	35 194 2, 993 218 44 526	13 258 3, 125 71 281 50 4, 564	19 504 5, 459 958 1, 474 410	21 243 3,574 761 1,893 124	370 5,673 23,709 24,684 4,731 3,963 50,688

¹ Compiled from Monthly Summary of Foreign Commerce.

² Based upon 8-year average.

Table 62.—Wheat: Per cent of average yearly exports from United States to countries named (flour included), 1899–1900 to 1921–22.

Country.	10-year average, 1899-1900 to 1908-9	5-year average, 1909-10 to 1913-14.	7-vear acerage, 1914-15 to 1920-21.	192J-22.
Belgium Denmark France Germany Italy Nethorlands Norway and Sweden Portugal Spain Untod Kingdom Canada Mexico. South America. Assa Africa. All other Total	7.82 1.56 8.12 .65 1.03	Per cent 6 91 1.56 2.82 6 67 2.30 11.46 1.19 53 .06 28.17 2.05 .74 5.34 11.02 1.08 17 10	Per cent 4.07 .02 12.09 2.15 14.82 6.65 2.22 .25 .13 31.94 4.43 .83 2.02 .44 .32 17.02	Per cent. 7. 12 133 2. 08 11. 28 15. 59 9 37 . 87 . 89 23. 55 9. 47 . 44 1. 15 1. 44 1. 14 1. 16 1. 16 1. 10. 00

¹ Compiled from United States Department of Agriculture data.

Table 63.—Wheat: Monthly and yearly exports from United States, 1909-10 to 1921-22.

FLOUR NOT INCLUDED.

Crop year.	July	Aug	Sept.	Oct.	Nov	Dec.	Jan	Feb.	Mar.	Apr.	Мау	June	Crop year total.
1909-10. 1910-11. 1911-12. 1912-13. 1913-14.	bush 2,783 862 3,260 535	bush. 6,157 2,131 6,253 5,800	2,226 5,088	3, 261 3, 350 15, 255	bush. 8,427 2,505 2,299 10,584	3, 084 9, 490	2,802 2,043 8,441	1,349 1,244 4,357	bush. 1,204 1,883 1,352 4,569	1,315 1,386 6,590	1,371 603 7,159		23, 73 30, 16 91, 59
Average, 1909-1913	3,369	8,937	7,919	7, 573	5, 533	5, 087	3,940	2,413	2, 493	3,062	3,686	2,900	56, 91
1914–15 1915–16 1916–17 1917–18 1918–19 1919–20 1920–21	7,956 6,355 5,059 225 5,834	16,838 11,060 5,170 15,120 12,941	21,526 13,108 2,613 26,848 17,090	18, 040 11, 985 5, 415 21, 319 13, 687	19, 182 13, 500 14, 279 4, 878 16, 087 15, 116 26, 035	12, 624 14, 473 4, 491 25, 084 9, 520	13, 461 18, 906 1, 914 9, 943 8, 480	15, 054 10, 384 1, 048 5, 992 4, 938	17, 294 7, 885 1, 688 10, 208 6, 939	16,506 14,233 1,024 17,338 4,176	14, 571 11, 359 353 14, 028 10, 864	5, 905 15, 804 467 16, 390 12, 846	173, 273 149, 831 34, 120 178, 583 122, 431
Average, 1914-1920	10, 803	16, 166	19,689	17,975	15, 582	17, 282	14, 020	11,474	11,308	13, 382	13, 048	12, 292	173, 02
1921-223	24, 842	58, 537	30, 842	18, 206	13,955	10, 451	10, 038	5, 577	7, 645	4, 856	9, 366	14,006	208, 32
				FLO	UR IN	CLUI	DED.						
1909–10. 1910–11. 1911–12. 1912–13.	6,275 2,996	4,948 10,177 8,910	6, 186 10, 700 16, 987	7, 450 8, 820 20, 745	12,996 6,753 6,574 16,155 9,616	8, 044 7, 980 14, 490	7,000 5,814 13,445	3, 527 5, 129 5, 033 9, 194 7, 556	5, 618 5, 852 8, 799	5, 244 4, 923 10, 820		3,930	
Average, 1909–1913													
1914–15 1915–16 1916–17 1917–18 1918–19 1919–20 1920–21	11,556 10,585 8,420 11,156 16,324	21, 612 14, 921 9, 738 19, 494 20, 312	25, 230 18, 162 7, 180 28, 346 25, 028	23, 768 16, 130 11, 522 24, 532 20, 977	19, 264 19, 001 10, 616 21, 991	20, 418 18, 690 15, 300 33, 540 15, 428	20, 895 24, 004 12, 448 22, 102 12, 274	21, 066 13, 561 10, 494 15, 842 10, 581	24, 071 12, 439 12, 209 20, 315 16, 880	22, 424 18, 504 12, 364 31, 130 13, 720	20, 592 16, 219 10, 914 28, 304 25, 890	12, 223 21, 357 11, 375 32, 653 21, 752	243, 119 203, 576 132, 586 287, 409 222, 562
Average, 1914-1920													
1921-22 2	30, 413	66,963	38,950	25, 211	19,563	15, 014	14,982	10, 991	14, 371	10, 244	14, 267	18, 200	279, 169

Table 64.—Flour, United States: Daily milling capacity, yearly flour output, and wheat production, by States, 5-year averages, 1915–1919.

					,	
	Daily	Out	put.	Wheat	Output	
States.	capacity.	Flour.	In terms of wheat.	production.	is of pro- duction.	
Minnesota Kansas New York Missouri Illinois	85, 800 60, 900	Barrels. 27,628,382 11,792,859 7,976,403 7,341,182 5,134,348	Bushels. 124, 327, 719 53, 067, 864 35, 893, 813 33, 035, 320 23, 104, 565	Bushels. 52,082,000 102,449,000 9,337,000 38,875,000 46,993,000	Pcr cent 239 52 384 85 49	
Washington	36, 475	4,779,687	21, 508, 593	37, 869, 000	57	
Ohio.	64, 875	4,621,850	20, 798, 325	40, 935, 000	51	
Texas	33, 950	3,792,320	17, 065, 441	20, 830, 000	82	
Indiana.	48, 650	3,337,807	15, 020, 130	37, 926, 000	40	
Cahforma.	17, 525	2,872,400	12, 925, 708	8, 901, 000	145	
Oregon	26, 100	2,717,230	12,362,533	17,618,000	70	
Oklahoma	20, 850	2,578,627	11,603,822	40,609,000	29	
Tennessee	31, 850	2,448,296	11,017,332	7,133,000	154	
Nebraska	25, 850	2,434,581	10,955,614	51,044,000	21	
Muchigan	36, 775	2,362,543	10,631,441	16,090,000	66	
Pennsylvania	37,825	2, 180, 100	9,810,448	25, 132,000	39	
	28,725	2, 103, 585	9,466,132	9,740,000	97	
	11,975	1, 711, 830	7,703,233	14,557,000	53	
Wisconsin	26,100	1,662,437	7,480,967	6,194,000	121	
Virginia	21,700	1,448,951	6,520,280	14,421,000	45	
All other	144,600	17,161,822	77,228,199	238,903,000	32	

¹ Compiled from United States Department of Agriculture data.

Table 65.—Wheat: Early statistics, United States and United Kingdom.

EXPORTS, INCLUDING FLOUR, FROM THE UNITED STATES, 1800, 1840, 1845.

Country.	1800	1840	1845
West Indies Great Britain British American colonies Spain Portugal South America	885, 076 36, 910 13, 452 26, 665	Bushels. 2, 089, 698 3, 712, 371 3, 223, 384 6, 250 1, 492, 235	Bushels. 2, 203, 800 178, 785 1, 760, 909 1, 110 1, 262, 663

PRODUCTION, EXPORTS, IMPORTS, AND RETAINED IN THE UNITED STATES, 1839, 1849, 1850.

	1839	1849	1859
Produced	Bushels.	Bushels.	Bushels.
	84, 832, 272	95, 863, 268	173, 104, 924
	1, 545	2, 913, 225	4, 492, 969
Total available	84, 833, 817	98, 776, 493	177, 597, 893
	11, 208, 365	7, 535, 901	17, 213, 133
Remaining in the country	73, 625, 452	91, 240, 592	160, 384, 760
Total population	17, 089, 453	23, 191, 876	31, 443, 321
Production per capita	4 96	4 13	5, 50
Per capita left in country	4. 31	3 96	5, 10

Table 65.—Wheat: Early statistics, United States and United Kingdom Con. Source of British Supplies (MPORTED, 186, 186)

Year.	From United State	From Canada.	From Germany	From France	From Raym,	Total.1
1845	1,000 brish 75° 6,404 14,6°2 2,566 4,912 4,296 23,464	1, 8/2 2,616 3,192 1,485	1 532 3, 896 5, 151 8, 485 8, 991 4, 750	258 592 1, 32 2, 360 5, 312 9, 150		1, 733 25, 752 37, 729 27, 76

AVERAGE ACREAGE, YIELD, POPULATION, AND CONSUMPTION IN THE UNITED KINGDOM, 1833-1802

Year endiag—	Arenge anteuge.	Average yield.		Average per cap through
1853–1860. 1861–1868. 1869–1876. 1877–1894. 1855–1892.	4, 092, 160 3, 753, 011 3, 758, 192 3, 091, 090 2, 512, 921	Bushels. 287 277 277 274 254 267	28, thu, that 24, 760, that 31, 464, 169 31, 468, thu 30, thu, tha	Bushili. 5-19 5-69 5-69 5-33 5-92

¹ Totals include imports from other minor sources.

TABLE 66 .- Wheat: Average exports and imports of countries named, 1901 to 1911

2212223 001 77	7		,		,	~ ~		
Country.		verage, -1908.	5-year : 1909-	.vciage, -1914.		verage, 1920.	193	£1.º
·	Exports.	Imports	Exports	Imports.	Exports.	Imports	Exports.	Imports.
Argentina Australia Austra-Hungary Belgium British India Bulgaria Canada Chile Germany Nethorlands Rumania Russia Serbia United States Brazil British South Africa	25, 102 4, 276 17, 814 35, 055 12, 021 37, 540 1, 785 4 8, 950 40, 026 39, 915 124, 823 2, 780 151, 890	2, 128 63, 180 4 79, 375 58, 449	51, 510 8, 953 90, 870 2, 583 21, 149 54, 394 52, 370 161, 766 2, 480 100, 310	73, 967 89, 755 76, 653	25, 140 98 147, 523 1, 480 130 5, 945 3, 377 17, 337 239, 849	*2,215 6,625 3,510 21,300	1, 051 15, 947 179, 606 3, 506	81, 55 32, 54) 23, 695
Denmark. France. Greece.		4,993	*********	6,711 38,698		2, 179		
Italy Japan Portugal Spain		35, 206 5, 319 2, 982		52, 866 3, 495 3, 229	********	75, 135 4, 651 3, 615	ŧ .	*********
Sweden Switzerland United Kingdom All others	*********	7 732	27, 173	7, 140 18, 885 219, 156	31, 814	6, 198 14, 092 202, 216	**************************************	7, 059 15, 125

¹ Compiled from United States Department of Agriculture data.

As far as reported.

Austria only.

Table 67.—Wheat, including flow: International trade, calendar years 1909-1921.

"Temporary" imports into Italy of wheat to be used for manufacturing products for export are included in the total imports as given in the official Italian return. In the trade returns of Chile the nem trigo mote (propared corn) which might easily be confused with trigo (wheat), is omitted. See "General note," Table 20.

	Average,	1909-1913	19	010	16	20	19	21 -
Country.	Imports	Exports	Imports	Exports.	Imports.	Exports.	lmports	Exports.
PRINCIPAL EXPORTING COUNTRIES. Argentina. Australia. British India. Bulgaria. Canada Canada Chile. Rumana. Russia. United States PRINCIPAY. IMPORTING COUNTRIES.	1,000 bushels. 2 511 39 426 170 178 5,421 1,537	1,009 bushels 95, 213 49, 792 51, 510 11, 244 90, 871 2, 536 52, 070 161, 766 100, 510	1,144	1,000 bushels 197,356 100,247 2,524 17 113,556 2,648 1	1,0,0 busnels 5 152 (1) 226 44 65	1,000 bushels 195, 192 87, 340 5,756 668 144, 345 1,368 5,756 63	1,000 bushels 2 8,439 (1) 582 6 (1) 27,633	1,000 bushe's 62,290 110,466 15,317 979 179 696 2,150 3,761
Belgium Bradi British South Africa Denmark Finland France Gormany Grees Italy Japan Nethorlands Portugal Spain Sweden Switzerland United Kingdom Other countries	73, 967 20, 495 6, 797 4, 992 38, 698 89, 753 7, 663 3, 495 76, 663 3, 127 7, 140 18, 855 219, 855 57, 858	22,694 254 523 (1) 1,529 21,119 25 54,331 216 65 20 109 4,514 20,784	12, 323 22, 401 2, 137 836 2, 197 86, 666 9, 023 95, 503 11, 543 18, 120 4, 218 4, 079 11, 617 17, 612 33, 536	847 162 509 1,232 54 913 264 7,000 60 3 614 32,371	31, 053 15, 879 8, 711 1, 159 1, 060 87, 779 24, 572 13, 215 70, 875 20, 191 18, 690 8, 092 12, 103 231, 475 70, 343	330 99 119 1,172 910 339 1,579 91 1,095 721 30 1 690 36,663	39, 600 17, 230 1, 199 2, 622 2, 624 40, 236 11, 344 103, 016 12, 725 23, 605 18, 005 7, 059 15, 125 184, 850 50, 290	4,054 25 56 1,628 693 53 85 54 3,596 648 287 (1) 4,967 30,223
Total	700, 526	715, 101	533, 189	668,561	677,792	786,491	566, 372	783,287

¹ Less than 500.

OATS.

Table 68.—Oats: Area and production in undermentioned countries, 1909-1922.1

The same and the s		Ar	62.			Produ	etion.	
Country.	Average, 1909-1913.	1920	1921	1922 2	Average, 1909-1913.	1920	1921	1922 2
NORTHERN HEMIS- PHERE.								
NORTH AMERICA. United States 3 Canada 3 Mexico	1,000 acres 37,357 9,597	1,000 acres. 42,491 15,850	1,000 acres. 44,826 16,949	1,000 acres. 41,822 16,056	1,000 bushels. 1,143,407 351,690	1,000 bushels. 1,496,281 530,710	1,000 bushi /s. 1,060,737 426,233	1,000 bushels. 1,229,774 558,358
Total North American countries marked 3	46, 954	58,341	61,775	57,878	1,495,097	2,026,991	1,486,970	1,788,132
EUROPE.								
United Kingdom. England and Wales s Scotland Ireland. Norway. Sweden s Dennark s Dennark s Netherlands s Belgium s Luxemburg France s Spain s Luxemburg France s Serbia s Ceemany s Austria. Czechoslovakia. Hungary s Serbia s Croatia-Slavonia s Serbia s Croatia-Slavonia s Bosma-Herzegovina s Grecce. Bulgaria s Rusma s Poland s Luthuania. Latvia Esthonia. Finland s Russia, including Ukraine and North- Caucasia.	2,039 952 1,019 266 1,909 1,028 346 644 77 1,276 1,276 1,276 1,276 4,613 4,613 4,613 4,613 4,613 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513 4,513	2, 266 1, 032 1, 332 342 1, 752 1, 091 395 586 62 8, 278 1, 588 1, 159 627 1, 981 1, 029 273 345 2, 173 4, 118 533 1, 013	2, 148 1, 012 1, 254 342 1, 757 1, 112 383 693 64 8, 421 1, 575 1, 199 407 3, 063 4, 763 4, 763 766 622 363 1, 038	2, 161 987 1, 757 1, 118 392 701 66 7, 905 1, 512 1, 212 1, 212 818 954 366 3, 294 5, 718 675	82, 024 37, 670 63,083 10, 245 79, 115 43, 115 18, 512 40, 905 3, 382 29, 110 4 36, 945 4, 784 4 591, 906 4 143, 392 4 85, 840 4 59, 443 4 59, 546 4 4, 973 4 5, 216 4 4, 973 4 76, 546 4 77, 545 4 76, 590	85, 964 41, 256 53, 648 15, 078 69, 914 50, 794 20, 413 33, 865 1, 849 291, 406 37, 772 24, 223 3, 118 332, 490 15, 974 59, 654 22, 307 22, 242 3, 996 7, 094 60, 979 129, 061 7, 784	80, 264 38, 344 46, 144 12, 960 76, 598 20, 001 35, 225 35, 616 38, 401 3, 038 344, 455 21, 964 18, 906 4, 134 9, 301 55, 350 180, 286 18, 154 16, 843 8, 840 28, 029	74, 800 72, 498 51, 740 16, 430 27, 558 288, 250 31, 589 2, 460 284, 585 64, 520 17, 792 28, 647
Russia, including Ukraine and North- Caucasia	4 39, 203		.,,,,,		4 904, 547		,	
Total European countrics marked ³	37,998	34, 591	36,134	36,852		1,216,147	1,214,404	1,229,664
ASIA. Cyprus Japan Russia (Asiatic)	4 4,912	282		306	429 4 87, 403	11, 162	12,086	13, 434
Total Asia marked 8								

Official sources unless otherwise stated.
 Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.
 Indicates countries reporting for all periods given either as listed or as part of some other country.
 Old boundaries.
 Includes 627,000 bushels grown in the new territory of Venezia Tridentina and Venezia Giulis.
 One year only.

Table 68.—Oats: Area and production in undermentioned countries, 1909-1922-Con.

Name and the state of the second displaced and the state of the state			A	rea.				Production.				
Country.	Averag 1909–191		1920]	1921	1922	Average, 1909-1913.	1920	1921	1922		
Northern Hemis- rhere—continued.												
AFRICA.	1,000 acres.		1,000 acres.	a	,000 cres.	1,000 acres.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.		
French Morocco Algeria ³ Tunis ³	4 4. 14	56	6 578 150	.	558 165	583 119	12,950 4,333	228 6,855 1,481	10, 334 4, 134	5, 570 964		
Total African countries marked	59	7	7 728		723	702	17, 283	8, 336	14, 468	6, 534		
Total Northern Hemisphero countries merked 3	85,54	19			08, 632	95, 402	2,986,382	3, 251, 474	2,715,842	3,021,330		
The state of the s				Ar	·ea.			Produ	iction.			
Country.		Ave age 1908 to 1912-	9 19	19-20	1920-2	1 1921-222	Average, 1908-9 to 1912-13.	1919-20	1920-21	1921–22 2		
SOUTHERN HEMISP	HERE.											
Chile s		1,9 68 7	68 7 46 1,999 2, 809 708 1,0		60 76 2,061 564 937	2, 105 530	2,934 7 830 52,122 6 7,197 14,851 13,664	2,590 1,479 57,113 7,519 12,556 6,968	3, 155 1, 989 47, 619 7, 789 18, 521 5, 225	3,144 2,069 32,973 8,103 6,753		
Total southern hemisphere countries		3, 2	98 3	, 184	2,909	2,992	76, 747	75, 669	65,777	53,042		
Total world countries marked ⁴		88, 8	17 96	841	101,541	98, 424	3, 063, 129	3, 327, 143	2,781,619	3,077,372		
World total all tries reporting	coun-	140,6	27 104	, 382	109, 510	102, 179	4, 328, 148	3, 550, 328	3,051,618	3, 173, 118		

Table 69 .- Oats: Total production in countries as far as reported, 1895-1922.

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1895 1896 1897 1898 1899 1900	2, 903, 974, 000 3, 250, 256, 000 3, 166, 002, 000	1902 1903 1904 1905 1906 1907 1908	3, 514, 161, 000 3, 603, 896, 000	1914	4,617,391,000 4,697,437,000	1916 1917 1918 1913 1920 1921 1922	Bushels. 1 3, 484, 071, 000 2 3, 006, 747, 000 2 3, 112, 522, 000 2 2, 857, 897, 000 2 3, 550, 328, 000 2 3, 173, 118, 000

 $^{^{1}}$ Germany not included. In 1915 Germany produced about 10 per cent of the reported world production

Official sources unless otherwise stated.
 Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.
 Indicates counties reporting for all periods given either as listed or as part of some other county.
 Four-year average.
 One year only.

Table 70.—Oats: Average yield per acre in undermentioned countries, 1890-1922.

Year.	United States.	Russia (Emo- pean).	Ger- many.	Anstria	Ifungary proper.	France.	United King- dean, ¹
Average: 1890-1899. 1900-1909. 1910-1919.	Bushels. 26.1 29.3 32.1	Rushels. 17.8 20.0 22.2	Bushels. 40.0 50.7 47.5	Bushels. 25.3 29.8 29.3	Dushels 30.7 334-8	Buonela, 29/8 33,0 32,8	Bush is. 13.6 41.3 43.1
1919 1920 1921 1922	29 3 35, 2 23, 7 29, 4		41.9 41.9 41.1 36.0	22. 4 25. 5 28 2	27. 8 27. 3 27. 3 27. 5	21 6 35, 2 2+ 0 35, 5	12, 9 39, 1 37, 3

¹ Winchester bushels.

Table 71.—Oats: Acreage, production, value, exports, etc., in the United States, 1849-1922.

[See headnote of Table 4]

		Aver-		Aver-	828		ago ca ishel, c	sh prie	e per	Domestie	imports,
Year.	Acreage har- vested.	age yield per acre.	Produc-	farm price per bushel	Farm value Dec. 1.	Dece	mber.		owing ay.	including oatmeal, fiscal year beginning	hseaf year begin- ning
				Dec. 1.		Low.	High	Low.	High.	July 1.2	July 1.3
1849	1,000 acres.	Bush.	1,000 bushels. 146,584 172,643	C'ents.	1,000 dollars.	Cts.	Cts.	Cts.	Cts.	Bushels.	Bushels.
1859 1866-1875 1876-1885 1886-1895	9,680 17,143 27,482	28. 2 27. 4 26 1	272, 993 469, 856 717, 266	37 5 32.5 29.4	102, 423 152, 594 207, 113	38 29 27	42 33 29	45 33 28	52 38 32 <u>1</u>	546, 033 3, 106, 723 5, 607, 237	732,615 366,123 111,587
1896 1897 1898 1899 1900	29,645 28,353 28,769 29,540 30,290	26 3 27. 9 29. 3 31 3 30. 2	780, 124 791, 412 842, 747 925, 555 913, 800	18 3 20. 8 25. 2 21 5 25 4	142,772 164,836 212,482 226,588 232,074	16½ 21 26 22 21 21	181 237 271 23 221	167 26 21 21 21 27 27	15] 32 27] 23] 31	37, 725, 083 73, 880, 307 33, 534, 362 45, 048, 857 42, 268, 931	131, 204 25, 043 28, 098 54, 376 32, 107
1901 1902 1903 1904	29,894 30,578 30,866 31,353 32,072	26. 0 34. 5 28 2 32. 2 34. 0	778, 392 1, 053, 489 869, 350 1, 008, 931 1, 090, 236	39.7 30.6 34.0 31.1 28.9	308, 796 322, 423 205, 232 313, 488 314, 868	42 29± 31± 28± 29±	481 32 38 32 32 321	41 333 398 288 324	191 381 441 32 341	13, 277, 612 8, 381, 805 1, 960, 710 8, 304, 692 48, 434, 511	38, 978 150, 065 183, 983 55, 699 40, 025
1906 1907 1908 1909	33, 641 34, 666 <i>\$5, 150</i> 37, 548	31 0 23 9 25 0 30 4 31.6	1,035,576 805,108 850,540 1,068,289 1,186,341	31. 9 44. 5 47. 3 40 6 34. 4	329, 853 358, 421 492, 010 433, 869 408, 388	33 481 491 40 31	354 507 501 45 321	444 524 564 365 317	48} 56} 62} 434 35	6, 386, 331 2, 518, 855 9, 939, 417 2, 548, 729 3, 445, 850	91,289 3.3, 118 6,691,700 1,034,511 107,318
1911 1912 1913 1914	37,763 37,917 38,399 38,442	24, 4 37, 4 29, 2 29, 7	922, 298 1, 418, 337 1, 121, 768 1, 111, 060	45. 0 31 9 39 2 43. 8	414,663 452,469 439,596 499,431	464 31 375 467	47# 31# 40# 40#	501 351 37 501	54 43 42 <u>4</u> 56	2,677,719 36,455,471 2,748,743 100,609,272	2,622,357 723,899 22,273,624 630,722
1915 1916 1917 1918	40,996 41,527 43,553 44,349	37. 8 30. 1 36. 6 34. 7	1, 549, 030 1, 251, 837 1, 592, 740 1, 538, 124	36 1 52, 4 66, 6 70, 9	559, 506 655, 928 1, 061, 474 1, 090, 322	403 463 704 68	44 54 802 74½	391 591 72 671	191 74 791 741	98, 960, 481 95, 105, 698 125, 090, 611 109, 004, 734	665, 314 761, 644 2, 591, 077 551, 355
1919	40, 359 42, 491 45, 495 40, 693	29. 3 35. 2 23. 7 29. 9	1, 184, 030 1, 496, 281 1, 078, 341 1, 215, 496	70. 4 46 0 30. 2 39. 4	833, 922 688, 311 325, 954 478, 548	77 47 321 411	89 52 42 42 <u>4</u>	1004 363 371	1174 434 15	43, 435, 994 9, 391, 096 21, 016, 742	6,043,834 3,795,638 1,733,282

² Seven-year average.

⁸ Six-year average.

¹ Quotations are for No. 2 to 1906 2 Oatmeal not included until 1882. 3 Oatmeal not included 1867–1882, and 1909.

⁴ Acreage adjusted to census basis. ⁵ Preliminary estimate.

Table 72.—Outs: Acreage, production, and total farm value, by States, 1920-1922.

State.	Thou	sands of	acres.	Produc	etion (thou bushels)	sands of	Total ve	Total value, basis Dec. 1 price (thousands of dollars).		
2.00	1920	1921	1922 1	1920	1921	19221	1920	1921	19221	
Maine New Hampshire Vermont. Massachusetis Rhode Island.	119 18 81 9	12 <u>1</u> 18 81 9	130 18 87 10 1	4,974 702 2,835 305 28	4, 340 630 2, 673 279 28	4, 910 684 3, 132 340 31	4, 228 526 2, 126 245 22	2,387 378 1,577 165 17	2,322 410 1,751 214 19	
Connecticut	11	11	11	330	330	308	248	198	200	
New York	1,059	1,038	1,059	40,772	24,912	31,770	27,317	11,709	16, 203	
New Jersey	72	72	72	2,301	1,728	2,232	1,728	778	1, 228	
Penusylvania	1,210	1,238	1,213	47,190	35,253	41,242	31,145	15,877	19, 796	
Delaware	7	6	7	231	168	161	162	77	92	
Maryland Virginia West Virginia North Carolina South Carolina	50	60	58	1,625	1, 620	1,740	1, 138	729	857	
	1 18	163	166	3,241	3, 342	3,320	2, 625	1,872	1,959	
	200	210	200	5,400	4, 620	4,600	4, 266	2,402	2,669	
	1.4	170	178	3,388	3, 060	3,738	3, 252	2,142	2,504	
	307	338	406	7,368	8, 112	9,744	7, 589	5,922	7,405	
Georgia	341	112	474	7, 224	8, 652	8, 532	7, 802	5, 537	6,399	
Florida	11	11	37	697	533	481	418	346	327	
Ohio	1,510	1,550	1,472	68, 068	35, 650	39, 744	31, 034	11, 764	17,885	
Indiana	1,875	1,912	1,370	76, 875	45, 888	28, 770	35, 362	13, 308	11,508	
Illinois	4,334	1,594	3,860	171, 193	121, 711	110, 010	73, 613	35, 305	12,904	
Michigan	1, 485	1, 544	1, 498	58, 806	28, 101	49, 434	28, 227	16,116	20, 268	
Wisconsin	2, 468	2, 632	2, 465	107, 878	63, 958	101, 558	52, 860	21,106	39, 608	
Minnesota	3, 702	4, 145	4, 021	138, 825	99, 180	142, 746	49, 977	22,880	15, 679	
Iowa	5, 894	6, 340	6, 023	229, 866	164, 810	222, 851	82, 752	37,913	77, 998	
Missouri	1, 918	2, 148	1, 117	58, 499	42, 960	17, 872	28, 665	12,888	7, 864	
North Dakota	2. 1(1)	2, 568	2,358	60, 432	48, 792	78, 804	21, 151	10, 216	20, 489	
South Dakota		2, 650	2,400	75, 446	58, 300	74, 100	21, 897	11, 660	23, 808	
Nebraska		2, 585	2,408	83, 040	70, 054	56, 106	30, 725	14, 711	19, 076	
Kansas		1, 891	1,404	65, 299	38, 827	28, 386	25, 467	10, 483	11, 633	
Kentucky		293	234	6, 580	5, 567	1, 282	4, 803	2, 672	2, 398	
Tennessee Alabama Mis issappi Lomsana Texas	216 128 50	260 308 117 55 1,865	229 277 140 56 1,455	4, 950 4, 428 2, 176 1, 150 32, 780	5,330 6,778 2,940 1,265 33,570	1,351 5,540 2,660 1,249 33,465	3, 861 3, 897 1, 893 943 21, 635	2, 558 4, 404 1, 882 886 13, 092	2,306 4,155 1,756 862 18,406	
Oklahoma	1, 650	1,765	1,500	54, 450	35,300	30, 000	23, 958	9, 531	13, 500	
Arkansas	200	300	264	7, 250	6,600	6, 336	5, 655	2, 970	3, 612	
Montana	533	618	600	11, 726	14,832	19, 200	5, 980	5, 043	7, 104	
Wyoming	115	150	158	4, 370	4,500	5, 056	2, 709	1, 710	2, 022	
Colorado	204	217	185	6, 426	6,727	4, 625	3, 856	2, 220	2, 081	
New Mexico	61	61	62	1,671	1,690	930	1,337	811	539	
	13	18	20	351	630	620	337	410	422	
	77	79	86	2,603	2,876	3,354	2,082	1,064	1, 576	
	3	3	3	112	113	112	134	85	84	
Idaho	185	180	162	7, 030	7,740	6, 156	4,780	2, 477	2, 832	
	210	210	202	9, 786	10,500	7, 959	7,046	4, 410	4, 616	
	300	272	267	10, 950	8,701	6, 675	7,118	3, 303	3, 805	
	155	110	150	4, 650	3,750	5, 250	3,720	1, 928	3, 360	
United States	42, 491	45, 495	40, 693	1, 496, 281	1, 078, 341	1, 215, 496	688, 311	325, 954	478, 548	

¹ Preliminary estimate.

Table 73.—Oats Condition of crop, United States, on 1st of months named, 1902-1922.

Year.	June.	July	August.	When har- vested.	Year.	June.	July.	August	When har-	Year.	June	July.	Angust.	When har- rested.
1902 1903 1904 1905 1906 1907	90.6 85.5 89.2 92.9 85.9 81.6 92.9	92.1 84.3 89.8 92.1 84.0 81.0 85.7	89.4 79.5 86.6 90.8 82.8 75.6 76.8	87. 2 75. 7 85 6 90. 3 81. 9 65. 5 69. 7	1909 1910 1911 1912 1913 1914 1915	88.7 91.0 85 7 91.1 87.0 89 5 92.2	88. 3 82. 2 68. 8 89. 2 76. 3 84. 7 93. 9	85. 5 81. 5 65. 7 90. 3 73. 8 79. 4 91. 6	83. 8 83. 3 64. 5 92. 3 74. 0 75. 8 91. 1	1916 1917 1918 1919 1920 1921	S6. 9 88. 8 93. 2 93. 2 87. 8 85. 7	86.3 89.4 85.5 87.0 84.7 77.6 74.4	81. 5 87. 2 82. 8 76. 5 87. 2 64. 5 75. 6	78. 0 90. 4 84. 4 73. 1 88. 3 61. 1 74. 9

Table 74.—Oats: Forecast of production, monthly, with preliminary and final estimates.

Year.	June.	July	August.	Septem- ber.	October production estimate.	Final estimate.
1912. 1913. 1914. 1915. 1916.	1,000 bus 1,109,000 1,104,000 1,216,223 1,287,854 1,254,834	1,000 bus 1,139,000 1,031,000 1,199,805 1,308,996 1,316,867	1,000 bus. 1,207,000 1,028,000 1,153,240 1,402,100 1,271,028	1,000 bus 1,200,000 1,000,000 1,115,548 1,407,670 1,231,042	1,000 bns 1,417,172 1,122,139 1,139,741 1,517,178 1,229,182 1,580,714	1,000 bus. 1,418,337 1,121,768 1,141,060 1,549,033 1,251,837 1,592,740
1918 1919 1920 1921	1,500,049 1,439,991 1,315,476 1,404,922	1,436,617 1,396,637 1,322,065 1,328,937	1,427,596 1,260,463 1,402,064 1,137,202	1,477,348 1,218,935 1,441,839 1,090,282	1,535,297 1,219,521 1,444,411 1,078,519	1,538,124 1,184,030 1,496,281 1,078,341
Average	1,311,294	1,302,283	1,274,783	1,287,214	1,328, 117	1,337,155
1922	1,304,664	1,186,626	1,251,156	1,255,004	1,229,774	1 1, 215, 496

¹ Preliminary estimate

Table 75.—Oats: Production and distribution in the United States, 1897-1922.

gardeling gain majar mari malakusayi mu aja aja aja ani maja asa Alkari sin la mu u ayan demana ake	013 51 561		Crop		Miller wise Mindages filtr catalogs	Stock on	Shipped
Year.	Old stock on farms Aug. 1.	Quantity.	Weight per bushel.	Quality.	Total supplies.	farms Mar. 1 following.	out of county where grown.
1807–1901 1902–1906	1,000 bushels. 62,020 59,577	1,000 bushels. 850,387 1,011,516	Pounds. 30.7 31.4	Per cent. 86. 9 87. 7	1,000 bushels. 912,407 1,071,094	1,000 bushels. 309,996 387,728	1,000 bushels. 238,931 277,254
19d7	73,196	805, 108	29. 4	77. 0	878, 304	258, 104	221, 147
1908	40,528	850, 540	29. 8	81. 3	891, 063	294, 082	253, 929
1909	27,478	1, 068, 289	32. 7	91. 4	1, 095, 767	385, 705	343, 968
1910	63,666	1, 186, 341	32. 7	93. 8	2, 253, 007	412, 665	363, 103
1911	67,801	922, 298	31. 1	84. 6	990, 099	289, 989	265, 944
1912.	31, 875	1,418,337	33. 0	91. 0	1,453,212	604, 219	438, 130
1913.	103, 916	1,121,768	32. 1	89. 1	1,225,684	419, 481	297, 365
1914.	62, 467	1,141,060	31. 5	86. 5	1,203,527	379, 369	335, 539
1915.	55, 607	1,549,030	33. 0	87. 5	1,604,637	598, 148	465, 823
1916.	113, 728	1,251,837	31. 2	88. 2	1,305,505	394, 211	355, 002
1917.	47, 834	1,592,740	33. 4	95. 1	1,640,574	599, 208	514,117
1918.	81, 424	1,538,124	33. 2	93. 6	1,619,548	590, 251	421,568
1919.	93, 045	1,184,(3)	31. 1	84. 7	1,277,075	409, 730	312,364
1920.	54, 819	1,496,281	33. 1	93. 3	1,551,100	683, 759	431,687
1921.	161, 168	1,078,341	28. 3	74. 7	1,239,449	411, 934	258,259
1922.	74, 513	1,215,496	32. 0	87. 7	1,290,009	421, 511	304,558

'Table 76.—Outs: Yield per acre, price per bushel December 1, and value per acre, by States.

	Yıc	eld p	ci ac	re (l	ush	els)			Fari	n pi	ice p	er bı	ishel	(cer	nts).			V per (dol		re
State.	5-year 2 ver- age, 1918-1922.	1918	1919	1920	1201	1922	10-year aver- age, 1913-1922	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year a ver- age, 1917-1921.	1000	1977
Maine New Hampshire Vermont Massachusetts Rhode Island	34 4 31 8	10 0 12 0	33. 0 30. 0	34 0 28 0	$\frac{31.0}{28}$	34 0 31.0	69 69	55 56 52 54 50	57 58 55 56 58	45 54 53 51 50	67 69 65 66 68	85 84 85 81 75	90 87 90 91 90	92 85 90 90 95	85 75 75 80 80	55 60 59 59 60	60 56 63 60	29. 3- 28. 6- 27. 9- 28. 3- 25. 7-	3 22. 5 20. 1 21 5 18.	. 80 . 16 42 . 60
Connecticut New York New Jersey Penusylvania Delaware									55 51 54 51 50	55 45 18 44 51	69 62 61 57 62	79 75 70 73 78	90 84 79 80 87	88 83 80 80 90	75 67 75 66 70	60 47 45 45 16	65 51 55 48 57	25. 3. 23. 79 22. 8. 24. 09 22. 49	18 15 17 216. 213	20 30 05 .32 11
Maryland	21.5 21 0 18.9 23.4	23.0 27.0 17.0 22.0	22. 0 21. 0 16. 7 23. 0	21 9 22 0 24 0	18 0 24, 0	$\begin{array}{c} 20 & 0 \\ 23 & 0 \\ 21. & 0 \\ 24 & 0 \end{array}$	67 80 87		52 55 55 65 71	51 62	61 63 64 74 80	75 84 79 93 100	86 100 91 103 118	82 100 91 106 110	79 96	45 56 52 70 73	59 58 67	21. 99 18. 99 19 59 16. 99 21. 79	3 11. 3 13 3 14	. 80 34 07
Georgia Florida Ohio Indiana Illinois	34. 2 32. 0 33. 7	44 0 42.0 44 0	33 (0 32. (0 30 (0	14. 2 11. 0 39 5	23. 0 24 (26. 5	27 0 21 0 28 3	51 45 45	68 70 40 38 38	-13 -44	36 34	53 51	117 98 64 62 65	115 70	115 120 72 69 70	46	64 65 33 29 29	68 45 40 39	20. 3 14 2 22 4 20. 5 21. 7	1 8. 3 12 3 8 11.	. 84 15 40 . 12
Michigan Wisconsin Minnesota Iowa Missouri	31 2 38.1 33 2 35 7 24 5	40. 0 46 6 11 0 42 0 29 0	$\begin{vmatrix} 25 & 0 \\ 33.4 \\ 28 & 0 \\ 24.6 \\ 27.0 \end{vmatrix}$	39. 6 41. 8 37. 5 39. 6 30. 5	18 2 24. 3 21 0 26 0 20. 0	33 0 31 2 35 5 37 0 16 0	50 49 43 44 50	31	45 43 40 41 41	$\frac{32}{32}$	53 51 47 48 51	63	63 61	71 70 64 64 71	48 49 36 36 49	36 33 23 23 30	35	18 7 22 7 17 2 19. 7 16. 9	3 12	95
North Dakota South Dakota Nebraska Kansas Kentucky	23 0 31.0 28.0 24.1 21.5	23 5 39. 0 22 2 22. 0 24. 0	15 5 20 6 32 8 28 1 22 5	24 0 31. 0 34 6 30. 7 23. 8	19 0 22.0 27 1 20.5 19.0	33 0 31 0 23 3 19 0 18 3	41 41 44 50 65	45	3N 40 42	28 31	55	61 61 64	73	65 73	35 33 37 39 73	21 20 21 27 48	32 34 41	9 2 15. 5 15. 4 14. 7 17. 6	3 9 3 7	. 92 . 79
Tonnessee	19. 4 18. 4 23. 1	20. 0 25. 0	16. 0 16. 0 122. 0	17. (23. (22. 0 20. 0 23. 0	19. 6 22. 3	78 78	69 63 57	6a 63	63 60 55	74 68	94	107	93 105 105 100 64	78 88 87 82 66	48 65 64 70 39	75 66 69	17. 3 17. 5 16. 7 20. 5 16. 6	5 15. 3 12. 3 15	. (0) . 54 . 39
Oklahoma. Arkansis Montana. Wyennny Colorado	25. 8 23. 7 22. 6 28. 7	21. 0 25. 5 50 0 41. 0 30 0	32. 0 22. 0 16. 0 12. 0 26. 2	25. C 22. C 38. C 31. F	20. 0 22. 0 24. 0 30. 0 31. 0	20. 0 21. 0 32. 0 32. 0 25. 0	52 66 52 60 57	53 32	39	32	57 65 47 60	75 81	80 80	70 88 91 112 90	78 51 62	27 45 34 38 33	45 57 37 40 45	15. 9 18. 4 13. 0 22 0 21. 1	5 9 4 13 1 11 1 12 2 11	00 . 68 . 84 . 80 . 25
New Mexico Arizona Utah Nevada	1	i	1	1	1	1	•	40 65	70 43 55	45 55	80 61 75	96 85 96	97 118	100 98	96 80 120	37 75	68 47 75	22. 2 34. 0 29. 7 36. 2	1 21 3 18 3 27	. 08 . 33 . 90
Idaho. Washington. Oregon Ca Hornia								40 38 69	45 53	37 50	54 51 49 72		91 98 96 91	98 93 92 96	65. 80	32 42 38 51	58 57 64	27. 1 29. 8 21. 4 25. 0	3 22 9 14. 9 22.	. 85 . 25 . 40
United States		34 7	29. 3	35. 2	23. 7	20 9	19. 5	39. 2	43.8	36 1	52.4	66.6	70. 9	70 4	16.0	30. 2	39, 4	18. 6	111.	. 76

¹ Based upon farm price Dec. 1.

Table 77.—Oats: Farm price, cents per bushel on 1st of each month, 1908-1922.

Year.	Jan	Feb.	Mar	Apr.	May	June.	July.	Λug.	Sept.	Oct.	Nov	Dec.	Aver-
1908 1909 1910 1911 1912 1913 1914 1915	46. 1 48. 1 42. 8 33. 2 45. 1 32. 2 39. 1 45. 0	47. 0 48 1 45 0 33 1 47. 5 32 1 39 3 50. 1	47 9 51 1 46 0 32.8 49.8 33 1 38.9 52.1	50. 0 53. 2 45. 6 32. 3 52. 0 33. 1 39. 5 53. 4	50. 1 55. 3 13. 3 33. 2 56. 0 34. 2 39. 5 53. 4	51 8 57 4 43 0 34 7 55.3 36.0 40 0 51 3	50. 2 56. 2 42 1 37 5 52. 5 37 7 38. 8 46 7	49 8 50, 0 41, 7 40, 2 41, 3 27 6 33 7 45 4	47. 2 42. 3 38. 4 40. 4 35. 0 39. 3 42. 3 38. 5	47. 2 41 0 3 . 2 42 5 31 6 43. 3 31 5	46 5 41 0 31 9 13. 8 33. 6 37 9 42 9 34. 9	17. 2 10 2 31 1 45. 0 31. 0 39 2 13. 8 30. 1	47. 9 46. 4 31. 9 3 7 41. 1 35. 8 40. 9 42. 5
1916. 1917.	39 1 51 4	41.6 55 2	42 7 56. 9	42 0 61. 5	42 6 71 0	42 I 69. 9	40. 4 68. 9	40 1 73.7	43 1 61.7	41. 5 62. 3	19. 0 61. 7	52 4 63 6	11 0 02.7
1918	73 9 70 8 78 2 45 6 31. 0	78. 7 64. 3 82. 7 41. 8 32. 8	86. 2 62 6 84. 5 41 9 36. 6	88. 9 55. 8 90. 7 39. 3 36. 5	86 0 70, 9 98 3 36 8 37, 9	78 1 71, 2 102 9 37 9 38, 4	76. 3 70. 9 104. 5 35 6 37 3	73. 0 75 3 81 9 33 8 35. 0	70 3 71.7 70.2 30 1 32 2	71 0 68, 4 60, 7 31, 0 34, 5	65.7 15 21 21 65.7 15 21 21 7 15 22 25 37 15 22 25	70. 9 70 1 46 0 30 2 39 4	71.6 69.4 71.0 31.7 30.3
Average, 1913-1922.	50 6	52 2	53.6	55. 1	57.1	56 8	55.7	53 2	49.9	49. 0	18. 5	49 5	51-6

¹ Weighted average.

Table 78.—Outs: Monthly marketings by farmers, 1917-1922.

	Esti	mated	amour	it sold	month	ly by f	armers	of Un	ited St	ates (1	uillions	of bus	shels).
Year.	July.	Aug	Sept.	Oct.	Nov.	Dec	Jan	Feb	Mar.	Apr	Muy.	June.	Sea- son.
1917-18. 1918-19. 1919-20. 1920-21. 1921-22.	24 34 47 36 38	82 82 60 80 41	67 50 33 59 30	56 42 30 41 20	38 30 19 24 13	39 28 27 25 15	42 28 26 28 18	40 19 21 28 17	35 23 16 26 14	33 27 14 20 11	20 29 17 29 18	21 28 15 31 15	500 420 325 430 250
Average	36	69	48	38	25	23	28	25	23	21	23	23	382
					Pe	r cent	of year	's sale	s.		·		***
1917-18. 1918-19. 1919-20. 1920-21. 1921-22. A verage.	4.7 8 0 14 4 8.3 15 1	16 4 19 6 18.4 18 7 16.5	13. 5 11 9 10 1 13 8 11. 8	11. 1 9. 9 9. 2 9. 5 7. 9	7 7 7 7 2 5 8 5 5 5 3 6 3	7. 8 6. 7 8. 3 5. 8 6. 1	8.3 6.7 8.2 6.6 7.3	8 0 1 5 6 6 6.6 6.9	7. 1 5 5 4. 9 6. 0 5. 6	6 5 6.3 4.3 4.6 4.3 5.2	4.0 7.0 5.2 6.8 7.2	4.9 6.7 4.6 7.8 6.0	100. 0 100. 0 100. 0 100. 0

Table 79.—Oats: Extent and causes of yearly crop losses, 1909-1921.

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total cli- matie.	Plant dis-	Insect pests.	Animal pests.	Defective seed.	Total.
1908 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921	P ct. 7.9 17.0 27.6 7.2 22.7 15.7 1.4 10.1 11.8 12.9 11.5 6.4 18.3	P. ct. 5.2 8.1.0 3.1 7 2.2 8.5 4.0 1.2 5.7 2.3	P.ct. 0.62 (1) .3 .2 .9 .4 .2 .2 .3 .2	P. ct. 0. 8	P. cf. 1.1 4.3 1.0 6 8 1.0 8 1.0 8 1.0 8 8 8 9 7 8 8	P.cl. 0.9 1.7 5.1 1.3 1.8 2.6 1.1 2.8 1.0 1.8 2.8 9	P. ct. 0.8 .1 .5 .2 .4 .8 .5 .3 .4 .4 .6	P. ct. 17.7 21.4 14.1 27.2 22.7 13.2 19.7 18.2 18.1 22.3 12.1 31.0	P. ct. 2. 44	P. ct. 0.5 . 6 . 1.5 . 7 1.1 1.7 . 3 1.3 . 4 . 9 2.2 1.4 2.1	P. ct. 0.1 .2 .1 .1 .1 .1 .1 .1 (1) (1) (1) (1) (1) (1)	P. ct. 0. 4 . 2 . 2 . 1 . 1 . 2 . 1 (1) . 2 . 1 . 1 . 1 . 1	P. ct. 22, 2 24, 0 39, 5 17, 7 30, 3 27, 6 16, 3 27, 2 19, 8 20, 7 29, 9 16, 3 38, 9
Average	13. 1	2.9	.3	.9	.8	2, 2	.4	21.0	2.3	1.1	.1	. 2	25. 4

I Tiese than O OF new comt

Table 80.—Oats: Monthly and yearly average price per bushel of reported sales of No. 3 white, 1909-10 to 1921-22.

CHICAGO.1

						HOAG							
Crop year.	Aug.	Sepi.	Oct.	Nov.	Dec.	Jan.	Feb	Mar	Apr.	May.	June.	July.	Weighted average.
1909-10	\$0.38	\$0.39	\$0.40	\$0.40	\$0.44	\$0.48	\$0.47	\$0.44	\$0,42	80. 40	\$0.38	\$0.41	\$0.42
1910-11	. 35	.34	.32	.32	.32	.33	.31	. 31	.32	. 34	.39	.41	.33
1911-12	.41	. 45	.47	.48	.47	.50	. 52	. 53	.57	. 55	.53	. 49	.50
19:2-13	.33	. 33	. 33	.32	. 33	.33	. 33	. 32	. 35	.38	.40	.40	.35
1913-11	.42	. 43	.40	.01	-40	.39	.39	.39	.39	. 10	. 10	. 37	.40
Average, 1909-													
1913	.38	.39	.38	.38	.39	.41	.40	. 40	. 41	.41	.42	. 42	.40
#04 L 4 P		40		40		F.,							
1914-15	.42	.48	. 46	.48	.49	. 53	. 58	.57	. 57	.54	. 49	.53	.50
1915-16	-41	- 34	.36	.06	.42	.48	. 45	. 42	.44	.43	.39	.41	. 41
1916-17	.44	. 46	. 19	.55	- 53	.57	. 56	.61	. 69	-70	-67	78	. 54
1917-18	.61	.60	.50	- 65	.77	.82	. 89	.93	.89	.77	.77	.77	.71
1918-19	.70	.72	.69	.72	.72	.65	.58	.63	.70	.69	.70	.78	.70
1919-20	.73	.68	.70	. 13	.82	.86	.86	.93	1.01	1.09	1.13	.91	. 80
1920-21	.70	.62	. 54	.51	.48	.41	. 42	.42	. 36	. 39	.37	.34	.51
Average, 1914-		}	{	1	l						ĺ		
1920	. 57	. 56	. 55	.57	.60	.62	.62	.64	. 67	. 66	. 65	.65	. 60
1921-22	. 32	. 35	.31	.33	. 34	.34	. 36	. 36	. 38	.38	. 37	.36	. 35
					MINN	EAPC	LIS.2						
1909-10	\$0.36	\$0.37	\$0.36	\$0.38	80. 11	\$0.46	\$0.45	30. 43	\$0.40	\$0.09	\$0.36	\$0 42	\$0.39
J910-11	.35	.36	30	.31	.30	.31	29	. 29	. 32	.33	.37	. 42	. 33
1911-12	.41	.44	.46	.46	.46	48	.50	.52	.54	.54	.50	.47	.47
1912-13	.34	.31	.31	.29	.30	.31	:31	.30	.32	.35	.38	.38	.33
1913-11	.40	.40	37	.37	.37	.36	.36	.37	.36	.38	.38	.35	.38
1770-11	. 111)	.40						. 01	. 00	. 50	. 50	. 00	.00
Average, 1909-				1		ł	1			l	1	1	
1913	.37	.38	.36	. 36	. 37	.38	.38	.38	. 39	. 40	. 10	.41	.38
		==-==			40								
1914-15	. 42	.46	. 14	. 46	- 46	.52	. 56	.56	. 55	.52	. 46	.50	. 48
1915-16	.37	. 33	.34	. 35	.40	. 46	. 45	.41	. 42	.42	.38	.38	.38
1916-17	.44	-41	- 17	. 53	-49	.55	.56	.60	.67	.69	.66	.75	. 52
1917-18	. 55	. 58	- 58	.62	.76	.81	.88	.92	-88	.74	. 75	.74	. 71
1918-19	.63	. 69	. 65	.69	.69	.64	. 56	.60	. 68	.66	. 66	.74	. 66
1919 -20	-70	. 65	.67	. 69	.80	.83	. 82	.89	1.08	1.05	1.15	.94	. 80
1920-21	. tid	. 58	.51	. 47	- 44	-41	.30	. 39	. 33	. 36	.34	. 34	. 48
Average, 1914													
1920	. 55	. 53	;52	. 54	. 58	.60	.60	.62	.66	. 63	.63	. 63	.58
	.31	. 33	.28	. 29	.30	.32	. 35	. 34	. 35	. 36	.33	. 32	. 32

¹ Compiled from Chicago Daily Trade Bulletin. ² Compiled from Minneapolis Daily Market Record. TABLE 81.—Oats: Ratio of price of No. 3 yellow corn to No. 3 white oats, Chicago, 1909-10 to 1931-22.

Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.
1909-10 1910-11 1911-12 1912-13 1913-14	1.8 1.6 2.3 1.8	1.7 1.5 2.2 1.7	1.6 1.6 2.0 1.8	1.5 1.5 1.4 1.6 1.8	1.3 1.4 1.4 1.7	1.3 1.1 1.2 1.4 1.6	1.3 1.5 1.2 1.5 1.6	1.4 1.5 1.3 1.5 1.6	1.4 1.6 1.4 1.6 1.7	1.5 1.6 1.4 1.5 1.8	1.6 1.4 1.4 1.5 1.8	1.5 1.4 1.4 1.6 1.9
Average, 1909-1913	1.9	1.8	1.8	1,6	1.4	1. 1	1.4	1.5	1.5	1.6	1.5	1.6
1914-15. 1916-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	2.0 2.0 1.9 3.4 2.5 2.6 2.3	1.6 2.2 1.9 3.5 2.2 2.2 2.1	1.6 1.8 2.0 3.4 2.0 2.0 1.7	1.4 1.8 1.8 3.4 1.8 2.0 1.5	1.3 1.6 1.7 2.3 2.0 1.8 1.5	1.3 1.5 1.7 2.2 2.2 1.8 1.5	1.3 1.6 1.8 2.0 2.3 1.7 1.5	1.3 1.7 1.8 1.8 2.4 1.7 1.5	1.3 1.7 2.0 1.9 2.3 1.7 1.6	1. 4 1. 7 2. 3 2. 1 2. 5 1. 9 1. 5	1.5 1.9 2.5 2.1 2.5 1.7	1.5 2.0 2.6 2.2 2.5 1.7 1.8
Average, 1914-1920	2.4	2. 2	2. 1	2.0	1.7	1.7	1.7	1.7	1.8	19	2.0	2.0
1921-22	1.8	1.5	1.5	1.4	1.3	1 4	1.5	1,6	1.5	1.6	1.6	1.8

Table 82.—Oats: Monthly and yearly receipts and shimments, 11 primary markets, 1909-10 to 1921-22.1

[In thousands of bushels; i e., 000 omitted.]

	Chi-	Mil- wau- kee	Min- neap- olis.	Du- luth	St Louis.	To- ledo	De- troit.	Kan- sas City.	Peoria	Oma- ha.	Indian- apolis	Total.
YEAR.												
1909-10: Receipts Shipments.	85, 999 72, 501	9,496 7,433	15, 599 14, 531	7,806 7,432	20, 048 14, 765	3,670 3,162	2, 488 383	5, 165 4, 508	10, 875 11, 705		(2) (2)	161, 146 136, 120
1910-11 Receipts Shipments.	107, 902 89, 705		18, 419 13, 845	2,434 2,824	20, 517 15, 323	3, 709 3, 435	3,073 265	6, 280 1 , 066	10, 130 10, 895	(2) (2)	(2) (2)	157, 308 155, 231
Receipts Shipments. 1912-13:	87,623 70,090	8, 191	10, 043	4, 529 4, 639		2, 872 2, 611	2,752 318	6,01℃ 5,071	6, 658 8, 737	8, 868 9, 258	391	158, 503 130, 665
Receipts Shipments. 1913-14:	177, 103 116, 275	16, 252 20, 180	19,031 16,397	9, 350 8, 351	23, 785 16, 592	3, 637 4, 365	3, 535 514	7,701 7,523	11, 147 13, 188	14, 958 14, 802	8, 136 2, 876	201, 938 221, 063
Receipts	105, 738 98, 141	18, 434 17, 172	22,995 $24,272$	5, 795 6, 761	25, 967 19, 497	3,655 $2,819$	3,807 619	11, 325 11, 032	12, 152 13, 804	15, 977 18, 575	5,392 1,868	231, 237 214, 530
Average,1909-												
Receipts	112,873 89,312	13, 978 13, 570	17, 320 15, 818	5, 983 6, 001	21, 439 15, 491	3,509 3,278	3, 131 432	7,298 6,440	10,252 $11,666$			206,644 171,582
1914-15 Receiptsl Shipmentsl 1915-16:	143, 813 130, 93 8	29, 962 31, 179	23, 012 23, 147	9,005 8,325	21, 419 16, 240	6,066 5,0 89	4, 0?\ 1, 123	7,338 6,107	11, 189 11, 720	13,648	5,828	275, 338 252, 139
Receipts1 Shipments1	151, 168 1 22, 280	35, 252 34, 389	45,778 45,024	4,841 4,528	17,518 11,636	4,707 3,501	5, 173 2, 292	4, 882 2, 582	11,361 11,838	11,421 10,961	13,797 8,677	305, 914 257, 708
1916–17 Receipts! Shipments.!!	145,075 108,152	32,707 28,649	31, 322 23, 075	3,184 3,493	24,616 18,910	4,926 2,612	3, 911 934	10,059 10,130	13,562 11,019	18, 216 17, 392	14,895 10,891	302, 473 235, 347
Receipts1 Shipments. 1918-19:	134,310 86,725	31,766 20,128	42,017 42,181	766 680	37, 431 32, 129	5,303 3,194	3,677 607	18,344 12,826	20,170 17,541	23,673 21,915	19,822 13,705	037, 279 251, 661
Receipts1 Shipments. 1919-20:	115, 714 83, 719	34, 727 30, 548	37, 031 33, 019	2,663 2,378	30, 812 23, 836	9,010 8,820	8, 179 1, 756	16,688 11,343	8, 535 8, 212	20,661 20,559	14,820 4,516	298, 840 228, 706
Receipts Shipments. 1920-21:	82,141 60,792	26,572 $17,766$	17, 054 19, 033	1,035 1,084	31,391 22,772	3, 221 1, 601	2,418 551	7,615 5,180	10,636 13,096	13, 018 12, 110	13,969 4,023	209, 070 158, 008
Receipts	79, 430 54, 598	19,065 13,297	26,003 14,600	6, 241 455	30, 103 21, 387	5,848 2,339	3,345 750	7, 137 5, 132	9, 176 7, 906	10, 223 8, 123	16,509 6,000	213,080 131,986
Average,1914- 1920:												
Receipts! Shipments.	21,665 92,458	30, 007 25, 137	31,750 28,583	3, 963 2, 992	27,613 20,991	5,569 3,881	4,390 1,145	10, 295 7, 614	12,090 11,624	15,837 15,011	14,231 7,466	277, 426 216, 951
1921-22: Receipts Shipments.	77,828 63,418	23, 241 17, 869	32, 307 28, 260	6,065 10,129	25, 949 20, 160	4,604 2,318	2,285 330	7, 262 5, 013	14, 210 12, 251		13,052	217, 468 175, 826
MONTH.												
August: Receipts Shipments.	17, 321 6, 505	4,315 2,304	7, 230 1, 980	1, 222 524	2,690 2,103	1,996 556	332 66	1,840 245	1,812 682	1,458 570	2,856	43,072
Receipts Shipments.	5,886 5,047	1,662 2,017	3,936 1,597	725 1,735	2,329 1,639	320 218	184 10	885 240	998 976	1,002 792	1, 159 825 714	16,696 18,752 14,985
Receipts Shipments.	5, 406 3, 725	2,537 1,803	4,362 1,646	515 275	2,374 1,750	190 194	186 8	608 602	1, 121 1, 023	840 692	1,240	19,379 12,358
November: Receipts Shipments.	4,087 4,074	1,566 1,412	2,478 1,984	207 470	1, 288 1, 012	136 141	245 8	441 502	1, 120 965	'518 526	1,158 598	13, 244
December. Receipts	4, 107 3, 939	1,201 748	2,087 1,787	312	1,472	141	188	289	913	440	774	1

¹ Compiled from Chicago Daily Trade Bulletin.

Table 82.—Oats: Monthly and yearly receipts and shipments, 11 primary markets, 1909-10 to 1921-22—Continued.

[In thousands of bushels, 1. e., 000 omitted.]

	Chi- cago	Mil- wau- kee.	Min- neap- olis	Du- luth.	St. Louis	To- ledo.	De- troit.	Kan- sas City.	Peoria.	Oma- ha.	Indian- apolis.	Total.
MONTH												
1921-22.												
January: Receipts Shipments. February	5,035 4,168	1,686 738	1,658 1,725	424	2, 214 1, 561	197 35	221 50	378 307	1,172 857	924 964		
Receipts Shipments. March:	6, 798 4, 123	2, 190 1, 005	2,100 1,899		2,570 1,771	249 100	195 18	792 395		890 786		
Receipts Shipments. April	6, 269 6, 635	2,045 2,031	2,362 3,281		2, 332 2, 098	227 216	148 38	467 694	1, 151 1, 321	744 946		
Receipts Shipments. May:	3, 568 3, 208		1,029 2,407	2 2	1, 242 1, 281	146 118	110 48	247 355	678 916	549 758		
Receipts Shipments. June	7, 847 9, 652	2,605 2,155	2, 196 4, 874	896 3,170	2,846 2,283	569 3 84	144 38	474 702	1,729 1,575	1, 232 1, 390		21,693 26,664
Receipts Slapments. July:	5, 571 6, 831	1,329 1,242	1,513 2,661	979 3, 482	2,434 2,016	148 201	148 1	453 328	1,309 1,035	936 1,042		
Receipts Slupments.	5, 933 5, 211	1,398 1,100	1,356 $2,413$	359 236	2, 158 1, 655	285 75	184 18	388 242	1, 108 998	1, 192 1, 012	644 308	14, 945 13, 268

Table 83.—Outs: Visible supply in United States, first of each month, 1909-10 to 1921-22.

[In thousands of bushels; i.e., 000 omitted.]

Crop year.	Aug	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May.	June.	July.
1909-10. 1910-11 1911-12. 1912-13. 1913-11.	2,761 11,203 1,031	(2, 55) 20, 742 4, 160	18, 802 21, 014 9, 230	17,022 22,600 10,552	15,505 20,315 10,771	16, 129 18, 751 8, 157	15, 997 15, 431 9, 646	15, 769 14, 566 12, 343	13, 129 13, 429 13, 115	9, 223 10, 559 11, 991 8, 704 13, 262	8, 125 8, 052 8, 105	9,570 3,690
Average, 1909 1913	7, 185	13, 460	18,524	19,021	17,960	16, 286	14,857	14,521	13, 869	10,748	7,866	7,894
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1911-20. 1920-21.	1, 309 8, 537 6, 679 7, 876 20, 181	2, 921 27, 691 7, 277 19, 309 19, 111	14, 381 38, 866 14, 165 24, 689 19, 552	15, 730 45, 580 17, 453 22, 050 19, 196	20, 928 47, 467 18, 595 29, 143 16, 922	21, 081 48, 823 17, 657 31, 828 13, 080	20, 175 42, 675 13, 879 30, 565 11, 550	20, 265 36, 740 13, 917 27, 666 10, 401	17, 892 31, 191 18, 098 22, 882 9, 576	23, 022 12, 096 28, 933 21, 911 21, 507 6, 813 30, 740	16, 192 17, 454 20, 822 15, 827 8, 642	12, 452 9, 741 13, 227 18, 094 3, 623
A verage, 1914-1920	7,879	14,984	23,791	26, 612	28, 498	28,660	26, 5:3	25, 203	23, 401	20,717	17, 141	13,698
1921 -22	37, 562	60, 455	65, 843	69, 917	69, 198	67,728	67, 423	70, 170	61,644	55, 837	47,950	42, 743

¹ Compiled from Chicago Board of Trade Bulletin,

Table 81.—Oats: Summary in per cent of carloads graded by licensed inspectors for yearly periods, all inspection points. Total of all classes and subclasses under each grade.

1919-20 TO 1921-22.

		F	Receipt	s.		Shipments.					
Crop year.	No 1.	No 2.	No 3.	No. 1	s. c	No. 1	No 2	No. 3	No. 4.	S. G.	
1919-20 1920-21 1921-22	P. ct. 3 3 5.4 1.4	P. ct0. 0 36. 8 17. 8	P. ct. 54. 4 44. 7 59. 1	P cl. 10. 2 9. 0 17. 9	P. ct. 2.1 4.1 3.8	P. ct 2.7 4.2 1.8	P. ct 35 1 52, 7 37, 7	P ct. 57.3 37.2 55.9	P.ct. 4.3 3.3 3.3	P. ct. 0 6 2. 6 1. 3	
AUGUST, 19	21, TO	JUL	Y, 1922	2, BY	CLAS	SES.					
White	1.3 1.8 50 5	17.5 24.5 25.0	60. 1 33. 8 12. 5	17. 5 30. 6 6. 0	3.6 9.3 6.0	1.8 .6 50.0	37. 6 37. 0 0. 0	56.4 43.1 0.0	3.0 17.5 0.0	1, 2 1, 5 50, 0	

Table 85.—Oats, including oatmeal International trade, calendar years 1911-1921.

PRINCIPAL EXPORTING 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000			-		-	-			
Imports Exports Imports Impo	G	Average,	1911-1913	19	919	19	120	11	121
COUNTRIES.	Country.	Imports.	Exports.	Imports.	Exports	Imports	Exports.	Imports.	Exports.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	COUNTRIES. Algeria. Argentina. Australia. British South Africa. Bulgaria. Canada. Chile. China. Rumania. Rumania. United States PRINCIPALIMPORTING	bushels. 93 54 1,302 179 153 117 48 76 1,643	bushels. 1, 296 52, 751 233 262 278 16, 583 2, 469 484 10, 012 65, 279	bushels. 2 19 197 210 3,295 20 1 333	bushels. 5,438 22,958 491 1,548 16,346 1,835 238	bushels 3,074 186 485 1,347 31 42 4	bushets. 1, 891 28, 259 1, 205 115 699 16, 909 196 435 2, 659	bushels. 579 193 138 7 6	
Total	Belgium Cuba Denmark Finland France Germany Italy Netherlands Norway Philippine Islands Sweden Switzerland United Kingdom Other countries	8, 845 1, 361 4, 126 1, 187 30, 746 41, 320 9, 040 41, 901 486 6, 055 12, 484 64, 755 495	59 151 433 122 30, 844 104 33, 814 39 2, 342 1, 15 1, 411 2, 656	1, 192 589 1, 147 31, 749 12, 046 2, 870 (4) 1, 005 6, 334 29, 944 478	37 4 65 184 127 736 36 3,713 2,437	4, 568 1, 032 91 265 18, 133 243 3, 117 2, 080 59 100 582 3, 701 24, 862 3, 988	25 4, 876 265 1 433 134 605 16 1, 690 2, 100	9, 583 934 566 9, 418 7, 975 3, 591 947 52 3, 021 5, 826 33, 792 513	16 134 47 4,670 9 454 9 1,289 4,037 92,333

¹ One-year average.

23 9

² Two-year average.

⁸ Austria only.

⁴ Less than 500.

BARLEY.

TABLE 86.—Barley: Area and production in undermentioned countries.1

		Ar	38.			Product	ion.	
Country.	Avei- age, 1909- 1913	1920	1921	1922 2	Average, 1909-1913	1920	1921	1922 2
NORTHERN HEMISPHERE.								
NORTH AMERICA. Canada ³ United States ³ Mexico.	1,000 acres 1,574 7,620	1,000 acres. 2,552 7,600	1,000 acies 2,796 7,240	1,000 acres. 2,732 7,550	1,000 bushels 45,275 181,812 6,666	1,000 bushels. 63,311 189,332	1,000 bushels. 59,769 151,181	1,000 bushels 76,39 196,43
Total North American countries marked 3	9,194	10,152	10,036	10, 282	230,087	252,643	210,890	272,82
EUROPE.								
United Kingdom:	1,488 1911 105 4 \ 99 451 15591 68 6 \ 85 3 \ 3,509 1613 5 13 3 \ 976	1,637 204 207 1.56 398 626 56 91 1,641 4,319 494 8 18	1,436 171 175 156 400 628 61 96 5 1,679 4,335	1,364 157 427 666 62 86 5 1,623 4,217 574	50, 164 7, 103 7, 493 2, 867 14, 592 5 22, 589 3, 270 4, 217 82 5 46, 409 74, 689 10, 104 441 5 153, 529	50, 680 7, 781 7, 224 5, 382 11, 175 21, 707 2, 660 4, 351 105 08, 382 90, 462 1, 797 5, 870 619 82, 344	42,472 5,912 5,712 4,279 12,326 27,548 3,302 5,117 74 38,318 89,320 71,913 \$11,119 81,551 80,056	13, 27 29, 03 2, 366 3, 99 30, 53 74, 798 8, 768
Austria ³ Czechoslovakia ² fiungary ³ Yugoslavia ³ Serba ³	5 2,712 5 2,760 5 242	2,849 238 1,716 1,266 926	2,303 266 1,613 1,187 909	1,670 1,130 926	5 71,988 5 69,812	37,238 37,238 22,585 11,699	5,201 47,171 21,408 13,378	72,63: 5,196 42,14- 21,44: 13,056
Boshit-Herzegovina 3 Creatia-Shavoma 3 Bulgaria 1 Rumanna 3 Poland 4 Lathuama	\$ 214 \$ 158 \$ 616 \$ 1,319 \$ 1,249	554 3,392 1,944	551 3,878 2,151 414	554 4,267 2,825	5 5,072 6 3,455 6 2,510 5 12,425 5 24,821 5 27,150	9, 451 65, 161 38, 567	9,094 47,619 50,204 8,972	9, 324 84, 710 59, 581
	5 9 273 5 26,810	293	362 275 297	388	5 5, 737 5 440, 047	3,054 4,983	6,496 4,690 4,939	6, 980 4, 557
Total European countries marked 5	22,203	22,558	23, 151	23,854	603,114	505,326	524,443	525, 867
AFRICA.	From Production 2 today	angular in Value of Salah	uant ritribucing died aphique		Tank Reservation 10 arth unique		aller the commentation of the	To salver species with an
Morocco. Algeria ² Tunis ³ Egypt ³	3,353 1,115 16394	2,341 2,795 927 340	1,905 2,508 1,230 394	2,150 2,568 603 375	41,961 67,900 611,843	39,645 29,932 2,618 10,419	29,510 48,226 11,482 11,941	22,506 19,805 1,378 11,306
Total African countries marked 3	1,892	4,062	4,132	3,846	61,704	42,999	71,649	32, 489



¹ Official sources, unless otherwise stated.
2 Figures for 1922 and 1921-22 compiled from reports received up to Nov. 15, 1922.
3 Indicates countries reporting for all periods either as listed or as part of some other country.
4 Three-year average
5 Old boundaries.
5 Four-year average.
7 Unofficial.
8 Includes 758,000 bushels grown in Venezia Tridentina and Venezia Giulia.
9 One year only.
10 Two-year average.

Table 86.—Barley: Area and production in undermentioned countries 1—Continued.

		Are	a.			Product	ion.	
Country.	Aver- age, 1909- 1913.	1920	1921	1922 2	A verage, 1909-1913	1920	1921	1922 2
NORTHERN HEMISPHERE—Con								
ASIA.	1,000 acres	1,000 acres. 105	1,000 acres 130	1,000 acres.	1,000 bashels. 2,151	1,000 bushels. 2,209	1,0110 bushels 2,231	1,040 bushels.
India: British India Native States Russia, Asiatic	7,836 917 829	7,419 1,033	6,203		40,973 11,171	149,3%0	117,010	
Japanese Empire: Japan Chosen Formosa	3, 183 813 3 5	2,937	2,929 1,979			84,909 36,539	87,881 36,727	\$5,819 32,316
Total Asiatic countries marked 4.								
Total Northern Hemisphere countries marked 4	36, 289	36,772	37,319	37,982	891,905	800,968	806,982	831,183
Country	Aver- age, 1908-9 to 1912-13.	1919–20	1920-21	1921–22	Average, 1908-9 to 1912-13.	1919–20	1920-21	1921-22
SOUTHERN HEMISPHERE. Chile 4 Urugnay 4	1,000 acres 5117 64	1,000 acres. 126 5	1,000 acres. 128	1,000 acres 139 3	1,000 bushels. 53,924	1,000 bushels, 3,691 76	1,000 bushels, 5,035 82	1,000 bushels, 5,376 42
Argentana Union of South Africa 4 Australia. New Zealand 4	5 268 6 109 137 39	615 99 267 23	667 91 47	87	6 3,626 2,015 2,819 1,402	10, 279 7720 4, 288 816	11,161 1,137 1,587	1,282 1,151
Total Southern Hemi- sphere countries marked 4	269	253	271	262	7, 102	5,303	7,841	7,851
Total world countries marked 4	36,558	37,025	37,590	38, 244	902,307	806, 271	814,823	839,034
Total world, all countries reporting.	77,839	52,678	52,961	40,941	1, 536, 431	1, 159, 056	1,137,427	986,685

Table 87.—Barley: World production so far as reported, 1895-1922.

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1895 1896 1897 1998 1899 1900	Bushels. 915,501,000 932,100,000 864,605,000 1,030,581,000 965,720,000 959,622,000 1,072,195,000	1902 1903 1904 1905 1906 1907 1908	Bushels. 1,229,132,000 1,235,786,000 1,175,784,000 1,180,053,000 1,296,5"9,000 1,271,237,000 1,274,897,000	1909 1910 1911 1912 1913 1914 1915	Bushels, 1,458,263,000 1,388,734,000 1,373,286,000 1,466,977,000 1,450,265,000 1,463,289,000 1,439,857,000	1916 1917 1918 1919 1920 1921 1922	Bushcls. 1, 189, 868, 000 1 936, 050, 000 11, 074, 158, 000 1972, 937, 000 11, 159, 056, 000 11, 137, 427, 000 1986, 685, 000

¹ Russia not included In 1015 D

¹ Official sources unless otherwise stated.
2 Figures for 1922 and 1921-22 compiled from reports received up to November 15, 1922.
3 Three-year average.
4 Indicates countries reporting for all periods either as listed or as part of some other country.

Two-year average.

One year only.

Excluding production in native location which amounted to 29,056 bushels in 1918.

Table 88.—Barley: Average yield per acre in undermentioned countries, 1890-1922.

Year.	United States.	Russia (Euro- pean).	Ger- many.	Austria.	Hungary, proper.	France.	United King- dom.1
A verage: 1890–1899 1900–1909 1910–1919	Bushels. 23 4 25 5 25 1	Bushels. 13 3 14 3 2 15 6	Bushels. 29 4 35 3 33.2	Bushels. 21 1 26 3 26 3	Bushels. 23 4 24 2	Bushels. 1 22 6 1 23 6 23 1	Bushcls. 39 8 35 0 33 6
1919. 1920. 1921. 1922.	22 0 24 9 20 9 26.0		27 6 27 9 31 7 25 6	16 4 18 5 19 6 16 8	17 8 18 0 19 0	17.5 23 4 22 8 24.4	30 8 32 1 30.4

¹ Winchester bushels.

Table 89.—Burley: Acreage, production, value, exports, etc., in the United States, 1849-1922.

[See headnote of Table 4]

	Acreage	Aver-	The state of the s	Aver- age farm	Farm	bu		sh prio		Domestic	Imports,
Year.	har- vested.	yield per acre.	Produc- tion.	puce per bushel Dec. 1	value Dec. 1.	Dece	mber		wing ay.	fiscal year beginning July 1.	fiscal year beginning July 1.
						Low	High	Low	High.		
1849	1,000 acres.	Bush.	1,000 bushels. 5,167	Cents.	1,000 dollars.	Cts.	Cts.	Cts.	Cts.	B u shels.	Bushcls.
1859 1866-1875 1876-1885 1886-1895	1,196 2,102 3,490	22 6 22 4 22.7	15,826 26,992 47,029 79,646	79 2 61 8 48.3	21,382 28,687 37,461	94 75 56	109 82 58	102 73 54	120 77 58	212,563 1,008,254 2,597,671	5,493,794 7,686,520 5,782,846
1896	4,172 4,150 4,237 4,470 4,545	23 8 24.9 23.5 26.1 21.1	99, 394 103, 279 99, 922 116, 552 96, 041	30. 0 35. 2 38. 9 39. 0 40. 5	29, 814 36, 346 39, 003 45, 179 38, 896	22 25‡ •40 35 37	37 42 50½ 45 61	24 <u>1</u> 36 36 36 37	35 53 42 41 57	20,030,301 11,237,077 2,267,403 23,661,662 6,293,207	1,271,787 124,804 110,475 189,757 171,004
1901	4,742 5,126 5,568 5,912 6,250	25.7 29 1 26.4 27.4 27.2	121,784 149,389 146,864 162,105 170,089	45 2 45 5 45 4 41 6 39 4	55, 068 67, 914 66, 700 67, 427 66, 959	56 36 42 38 37	63 70 61 ½ 52 53	61 48 38 40 42	72 56 59 50 55 <u>4</u>	8,714,268 8,429,141 10,881,627 10,661,655 17,729,360	57,406 56,462 90,708 81,020 18,049
1906 1907 1908 1909 1910 2	6,730 6,941 7,294 7,699 7,743	28 6 24 5 25 3 24 4 22 5	192, 270 170, 008 184, 857 187, 973 173, 832	41.6 66.3 55.2 54.8 57.8	80,069 112,675 102,037 102,947 100,426	44 78 57 55 72	56 102 64 <u>1</u> 72 90	66 66 50 75	85 75 75 68 115	8,238,842 4,349,078 6,580,393 4,311,566 9,399,346	38,319 199,741 2,644
1911 1912 1913 1914	7,627 7,530 7,499 7,565	21 0 29 7 23.8 25.8	160, 240 223, 824 178, 189 194, 953	86 9 50.5 53.7 54.3	139, 182 112, 957 95, 731 105, 903	102 43 50 60	130 77 79 75	68 45 51 743	132 68 66 82	$\substack{1,585,242\\17,536,703\\6,644,747\\26,754,522}$	
1915	7,148 7,757 8,933 9,740	32.0 23.5 23.7 26.3	229, 851 182, 309 211, 759 256, 225	51.6 88.1 113.7 91.7	118, 172 160, 646 240, 758 234, 942	62 95 125 88	77 125 163 105	70 128 105 110	83 165 176 130	27,473,160 16,381,077 26,285,378 20,457,781	
1919 1920 2 1921 1922 3	6,720 7,600 7,411 7,390	22.0 24.9 20.9 25.2	147,608 189,332 154,946 186,118	120.6 71.3 41.9 52.5	178,080 135,083 61,931 97,751	125 50 48 66	168 98 64 75	140 56 62	190 75 75	26,571,284 20,457,198 22,400,393	
!		1				'	1				

¹ Prices 1895 to 1908 for No. 3 grade.

² Seven-year average.

[&]amp; Six-year average.

² Acreage adjusted to census basis.

³ Preliminary estimate.

Table 90.—Barley: Acreage, production, and total farm value, by States, 1920-1922.

State.	Thou	sands of	acres.	Produc	tion (thou bushels).	ands of	Total val	ue, ba as D ands of do	ec 1 price Hars)
States	1920	1921	1922 1	1920	1921	1922 1	1920	1921	1922 1
Maine	4	4	4	104	104	112	144	89	112
	1	1	1	26	23	28	18	25	27
	11	9	10	308	225	290	370	180	281
	170	158	158	4,930	3,318	4,103	4,881	2,057	3 010
	15	13	12	360	280	306	321	171	190
Maryland	10 102 81 182	4 9 97 65 173	4 9 73 42 190	270 2,825 2,187 5,533	120 207 2, 522 1, 235 4, 550	$\begin{array}{c} 128 \\ 248 \\ 1,424 \\ 714 \\ 5,605 \end{array}$	121 270 2,316 1,407 1,517	80 1 19 1, 286 593 2, 093	96 198 926 414 3, 251
Michigan	255	200	140	6, 620	3,500	3,500	5, 768	1, 995	2, 275
Wisconsin	502	473	443	15, 913	10,642	11,220	13, 367	5, 127	8, 165
Minnesota	895	935	908	22, 375	18,700	24,062	13, 872	6, 358	11, 309
Iowa	180	136	150	4, 950	3,196	4,200	3, 118	1, 312	2, 087
Missouri	7	7	5	196	154	115	192	100	83
North Dakota	1,085	1,096	1,008	19, 530	16, 988	25, 701	10, 937	1, 927	10, 025
South Dakota	1,028	1,120	952	25, 700	19, 010	21, 896	12, 364	5, 522	9, 196
Nebraska	256	199	242	7, 424	1, 915	4, 356	3, 712	1, 376	2, 047
Kansas	767	728	1,074	19, 4°2	11, 560	19, 332	8, 767	1, 222	8, 609
Kentucky	5	6	6	140	144	168	161	88	143
Tennessee	6 78 116 64 6	9 78 122 75 9	93 129 77 10	138 1, 794 2, 784 1, 152 216	189 1,872 2,681 1,538 261	315 1,767 2,193 1,925 310	152 1,346 2,004 719 238	189 812 1, 208 923 170	252 1, 149 1, 206 962 186
Colorado	216	202	186	5, 292	4,444	3, 534	3, 969	1,644	2,085
New Mexico	11	10	10	260	240	140	195	146	133
Arizona	20	29	25	680	928	825	952	742	701
Utah	19	16	18	593	512	630	593	246	346
Nevada	5	6	6	150	187	176	248	150	176
Idaho.	92	87	85	3, 220	2,784	2, 890	2, 415	1,308	1,875
Washington	82	80	74	2, 895	2,941	1, 813	2, 895	1,531	1,342
Oregon	75	70	80	2, 415	2,240	2, 160	2, 415	1,120	1,598
Cahiorma	1, 250	1, 188	1,152	28, 750	29,700	36, 861	28, 750	16,632	23,224
United States	7,600	7, 414	7,390	189,332	151,946	186, 118	135, 083	64, 934	97,751

¹ Preliminary estimate.

TABLE 91.—Barley: Condition of crop, United States, on 1st of months named, 1901 1922.

Year.	June.	July.	August.	When har- vested.	Year.	June.	July.	August.	When har- vested.
1901	P. ct. 91. 0 93. 6 91. 5 93. 7 93. 7 90. 6 89. 8 90. 2	P. ct. 91.3 93.7 86.8 88.5 91.5 92.5 84.4 86.2 90.2 73.7 72.1	P. ct. 86. 9 90. 2 83. 4 88. 1 89. 5 90. 3 34. 5 83. 1 85. 4 70. 0 66. 2	P. ct. 83. 8 89. 7 87. 4 87. 8 89. 4 75. 5 81. 2 80. 5 69. 8 65. 5	1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922.	P. ct. 91 1 87. 1 95. 5 94. 6 86. 3 89. 3 90. 5 91. 7 87. 6 87. 1 90. 1	P. ct. 88, 3 76, 6 92, 6 94, 1 87, 9 85, 4 87, 4 87, 4 87, 6 81, 4 82, 6	P. ct. 89.1.1 74.9 85.3 93.8 80.0 77.2.0 73.6 84.9 71.4 82.0	P. ct. 88, 9 73, 4 82, 1 94, 2 74, 6 76, 3 81, 5 69, 2 82, 5 68, 4 81, 2

Table 92.—Barley: Forecast of production, monthly, with preliminary and final estimates.

Year.	June.	July	August	September	October production estimate.	Final estimate.
1912 1913 1914 1915 1916 1917 1918 1919 1920	1,000 bus 192,000 177,000 206,430 197,289 189,285 214,971 235,272 231,777 185,108 190,661	1,000 bus 194, 000 165, 000 211, 319 208, 173 205, 989 213, 952 229, 816 230, 900 193, 000 181, 288	1,000 bus 202,000 168,000 202,660 217,441 194,842 203,393 231,815 203,525 195,925 170,511	1,000 bus 209,000 168,000 199,575 222,936 184,441 203,839 235,835 195,297 194,858 166,906	1,000 bv; 224,619 173,301 196,368 236,682 183,336 201,659 236,505 198,298 191,386 163,399	1,000 bus 223, 824 178, 189 194, 953 228, 851 182, 309 211, 759 250, 225 117, 608 189, 322 154, 946
Average	201, 917	203, 652	199,011	198,069	200, 595	196, 800
1922	191, 216	181, 586	191, 507	193, 850	196, 431	1 186, 118

¹ Preliminary estimate

Table 93 —Barley. Yield per acre, price per bushel December 1, and value per acre, by States.

March Control	Yield per acre (bushels)								Fa	rm j	rice	per b	ushe	l (cen	t;;)			per	acre ars).
State.	5-year 3 ver- age, 1918-1922.	1918	1919	1920	1921	1922	10-ytar aver- age, 1913-1922.	1613	1914	1915	1016	1917	1918	1919	1920	1921	1922	5-year aver- age, 1917-1921.	1922
New Hampshire Vermont	$\begin{vmatrix} 26, 8 \\ 27, 6 \\ 25, 9 \end{vmatrix}$	$\begin{array}{c} 32 & 0 \\ 31. & 0 \\ 31 & 5 \end{array}$	24.825.0220	26.0 28.0 29.0	23.0 25.0 21.0	29. 0 26. 0	120 107 94	80 80 69	82 75	75 75	101	140 130	150 153 126	188 150 136	116 120 99	80 62	98 97 74	40.33 35.83 29.55	28.00 27.44 28.13 19.21 16.58
Maryland	25. 0 25. 5 25. 0 29. 8	27. 0 31. 5 37. 0 36. 0	25. 0 23. 0 25. 0 27. 0	27.0 27.7 27.0 30.4	23. 0 26. 0 19 0 26. 3	27.5 19.5 17.0	99 78 78	70 58 50	66 80 59 67 61	75 54 65	73 85 80 75 103	139 118	160 93 101	130 125 118	100 82	72 51 48 46	80 65 58 58	32, 19 26, 59 26, 46 29, 50	24, 00 22, 00 12, 68 9, 86 17, 11
Michigan Wisconsin Mmnesota Iowa Missouri	29. 7 21. 5 27. 3 25. 6	35. 7 31. 6 31. 5 25. 0	26. 5 20. 0 25. 5 30. 0	31. 7 25. 0 27. 5 28. 0	22. 5 20. 0 23. 5 22. 0	26. 5 28. 4 23. 0	81 69 72 86	60 48 55		56 49 49	91 105 87 91 93	119 124 111 117 94	92 80 85	121 116 112	84 62 63 98	57 51 34 42 65	57 47 49 72	28, 54 20, 05 24, 70 26, 60	16. 25 18. 30 12. 16 13. 92 16. 56
North Dakota South Dakota Nebraska Kansas Kentucky	23. 3 22. 8 20. 1 26. 6	29, 5 16, 5 10, 0 28, 0	22.0 25.7 27.0 25.0	25. 0 29. 0 25. 4 28. 0	17. 0 24. 7 20. 0 24. 0	23. 0 18. 0 18. 0 28. 0	65 62 65 100	46 49 55	45 50 47 47 77		75 77	11.5	78 85 95	115 100 100	52 50 45 115	28 29 61	49 47 45 85	31.50	9. 66 8. 46 8. 10 23. 80
Tennessee Tevas Oklahoma Montana Wyoming	23. 6 22. 0 18. 2 29. 6	17. 0 17. 0 22. 0 37. 0	35, 0 30, 0 5, 6 15, 0	23. 0 24. 0 18. 0 36. 0	21. 6 22. 6 20. 5 29. 0	19. 0 17. 0 25. 0 31. 0	86 85 74 94	81 80 48	82 70 53 53 64	48 55	80 100 76 87	137 148 103 130	130 121 100 130	112 122 140 175	75 72 65 110	45 45 60 65	65 55 50 60	23, 35 22, 30 13, 86 35, 92	18, 00 12, 35 9, 35 12, 50 18, 60
Colorado	32. 7 33. 6 31. 2 30. 2	28. 0 34. 0 35. 0 34. 0	23. 8 35. 0 22. 9 26. 5	23. 6 34. 0 31. 2 30. 0	24. 0 32. 0 32. 0 31. 1	14.0 33.0 35.0 29.4	91 102 84 109	56 72 73 55 90	55 75 60 50 65	70 56 52 70	108 76 95	104 139 150 120 119	110 130 140 154	110 140 141 150	100 165	37 61 80 48 80	95 85 55 100	34 45 41.63	13.30 28.05 19.25 29.40
Idaho Washington Oregon California	28. 4 27. 9 26. 6	15. 2 25. 0 26. 0	30. 0 23. 1 27. 0	35.3 32.2 23.0	36, 8 32, 0 25, 0	21. 5 27. 0 32. 0	84 88 88	48 52 55 68	50 52 61 59		82 84 80 95	105 115 115 120	115 136 115		75 100 100 100	47 52 50 56	74 74 63	29. 15 30. 01 27. 95	22. 10 18. 13 19. 98 20. 16
United States.	23, 9	26.3	22.0	24.9	20.9	25.2	73.9	53.7	54.3	51.6	88. 1	113.7	91.7	120.6	71.3	41.9	52. 5	20.82	13, 23

Table 94.—Barley: Farm price, cents per bushel on 1st of cach month, 1908-1922.

Year.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Aug	Sept.	Oct.	Nov	Dec.	Average.1
1908 1909 1910 1911 1911	70 4 56, 5 57, 6 59 8 86 4	58.3 59.3 64.1	59 4 60 2 63 0	61 2 59 7 69 1	63. 8 56. 5	67. 0 55. 7 73. 9	67. 0 53 9	61.2 51.7 69.3	77 0	56 1	55. 3 55. 3 81. 9	54. 0 57. 8 86. 9	56. 5 56. 9 75. 2
1913 1914 1915 1916 1917	49. 9 52 2 54 3 54 9 87. 1	51. 4 52. 4 62. 9 61. 7 92. 7	51 1 67 7	$51.7 \\ 64 7$	49.3 63.8	49 1 62 0	55 8 59 3	45 1 56 7 59.3	52. 5 51. 9 72. 9	51 8 46 8 76. 5	51.7 50.1 83.2	54.3 51.6 88.1	
1918 1919 1920 1921 1922	126 5 91 3 130 2 64 4 43.7	131 9 86. 8 137. 1 57. 2 41 3		140.0	103.9 146.4	$109.2 \\ 148 3$	108. 4 142 0 50. 6	110. 0 118 7 121 0 49. 1 19 7	115.6 105.0	115 3 91 2	117. 1 81 7 41 7	120.6 71.3 41.9	106.9 48.9
Average 1913-1922	75. 4	77.8	80, 6	83. 4	83. 5	84.5	79 4	77.5	75. 7	71.0	73.8	73, 9	76.4

¹ Weighted average.

Table 95.—Barley: Extent and causes of yearly crop losses, 1909-19?1.

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Storms.	Total cli- matic.	Plant dis-	Insect pests.	Animali pests.	Defective seed.	Total.
1909 1910 1911 1912 1913	P. cl. 8. 9 34 0 30. 0 8. 4 24. 5	1.2 1.8	P. ct. 0.3 .1	P ct. 1.0 .9 .8 .9	.9	P. ct. 2.3 4.3 5 7 1.7 3 2	P. ct. 0.8 .1 .1 .5	P. ct. 19 0 40. 7 38 1 15. 9 31. 1	1.4	. 5	.5	P.cf. 0.2 .1 .2 .3	P. ct 22. 8 43. 1 41. 3 19. 6 34. 3
1914. 1915. 1916. 1917.	8. 2 1. 3 8. 0 2d. 6	3.4	.2 .3 .3	.6 .7 .7 1.0	1.5 1.7 1.5 1.1	4.6 .3 5.0 2.3		18. 4 8. 0 20. 2 32. 1	.9	.2	.2 .2 .1	.1 .1 .1	22. 7 10. 0 30. 6 33. 6
1918. 1919. 1920. 1921.	20, 7 18, 0 10, 4 20, 2	3. 4 2. 2 1. 4	.1 .5 .2	.7 .2 .4 1.3	1.1 1.8 1.1 1.2	2.3 3.8 2.0 6.6	. 2	25. 9 28 2 16 7 31. 4	5. 3 3. 0 2. 9	4.3	.1	(1) .1 .1 0	28. 8 38. 5 21. 7 36. 0
Average	16, 9	1.9	. 2	.7	1.3	3 4	.3	25.0	2 1	1.1	.2	.1	29.4

LLess than 0.05 per cent.

Table 96.—Barley: Monthly marketings by farmers, 1917-1922.

	Per cent of year's sales.												
Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Sea- son.
1917-18 1918-19 1919-20 1920-21 1921-22	2.2 2.4 18 5 7.0 35.0	15. 0 9. 7 19. 2 16. 5 14 0	23. 4 8 4 14. 3 15 0 10 5	16.5 4.4 9.9 9 9 7 8	8 5 7.8 6.4 9 9 4.4	8.6 3.3 7.5 7.2 4.2	6.5 1.3 5.4 6.7 3.9	7.5 .7 3.1 5.5 4.3	6.1 2.9 3.7 6.5 4.2	2.9 27.5 3.4 4.2 3.0	1.8 30.7 3.0 5 7 4.4	1.0 .9 5.6 5.9 4.3	100.0 100.0 100.0 100.0 100.0
Average	13 0	14.9	14 3	9.7	7 4	6 2	4 8	4 2	4 7	8 2	9. 1	3.5	100.0

Table 97.—Barley: Monthly and yearly average price per bushel of No. 2 Minneapolis, 1909-10 to 1921-22.1

Crop year.	Aug.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Mai.	Apr.	May.	June	July.	Yearly aver- age.
1909-10 1910-11 1911-12 1912-13 1913-14	\$0 45 . 61 . 85 46 . 58	\$0 48 63 94 . 19 61	\$0 49 . 63 . 50 . 50 56	\$0 52 . 66 98 47 53	\$0.57 .70 91 45 50	\$0 61 .77 1 05 49 52	\$0 60 .74 1 00 48 50	\$0 58 .81 .95 46 48	\$0 54 88 1.01 • 16 47	\$0.54 .75 .99 50 48	\$0 53 77 76 52 47	\$0 60 .87 60 .48 45	\$0. 54 74 92 . 48 . 51
Av. 1909-1913	. 59	. 63	63	63	63	69	. 66	66	67	65	61	. 60	. 64
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	. 59 . 59 . 81 1 31 1 02 1 33 1 02	. 58 . 48 . 81 1. 33 . 95 1. 27 . 99	55 51 1 03 1 28 91 1 29 92	. 59 56 1 11 1 27 . 94 1 33 . 82	57 61 1 07 1. 19 . 92 1 52 74	68 70 1 17 1. 56 90 1. 52 69	75 66 1 17 1 88 . 87 1 37 65	70 65 1 21 2. 12 93 1 51 . 67	. 70 68 1 36 1 82 1 09 1 60 . 61	70 .70 1 48 1 46 1 13 1 74 .59	66 68 1 38 1 23 1 12 1 49 57	.68 .69 1 49 1 18 1 21 1 16 62	. 65 . 63 1. 17 1. 49 1. 00 1. 43 74
Av. 1914-1920	. 95	92	93	95	99	1.03	1 05	1.11	1 12	1 11	1.02	1 00	1 02
1921-22	. 58	. 55	. 50	.51	. 47	51	56	. 58	61	.62	. 56	56	. 55

¹ Compiled from Minneapolis Market Record.

Table 98.—Barley. Monthly and yearly receipts at markets named, 1909-10 to 1921-22.

[In thousands of bushels, i.e., 000 omitted] Mil-Minne-Winni-Year Duluth Chicago ()maha. apolis. waukee peg. 22, 828 1 518 19, 134 35, 682 29, 796 26,658 20,740 20,929 30,083 26,201 3,301 1,537 3,483 9,859 10,66715,143 12,915 12,797 19,824 $\begin{array}{c} 12,177 \\ 7,157 \\ 6,019 \end{array}$ 1910 11...... 1911-12..... 14,504 1912-13.... 17, 499 10,895 1913-11..... Average, 1909-1913 21,792 24.922 5,769 15, 492 10, 150 25, 073 32, 085 28, 075 21, 473 26, 871 13, 694 29, 465 45, 143 26, 301 35, 423 43, 172 11,122 15,396 8,633 7,470 8,427 2,322 2,881 7,096 10,356 7,689 7,470 7,711 19,850 19,619 14,675 1915-16. 1916-17. 1,236 2,089 3,991 1918-19 1919-20. 18, 458 13, 191 17, 771 8, 194 10, 208 831 12,326 1,325 1920-21 4,043 10, 192 9,813 21,894 Average 1914 1920...... 22, 495 11,246 39,067 8,202 8,091 1,075 1921-22...... 11,945 7,597 11,597 5, 151 9,341 -----. . . . Minne-Winni-Mıl-Month. Duluth. Chicago. Omaha. apolis. peg. 3 wankee 1921 22. 2,220 1,331 1,350 687 $^{1,401}_{1,539}$ $1,404 \\ 921$ 241 552 2,130 1,746 1,100 1,227 790 180 October.... 643 695 1,068 160 November..... 184 566 51 586 December.... 696 58 522 48 72 13 473 565 February.... 721 418 529 94 March..... 175 905 949 929 648 138 766 670 52952April...... 1, 271 435 709 333 327 905 65 901 $\frac{414}{251}$ 820 $\frac{34}{22}$ 1,152 557 637 July..... 617 469

Table 99.—Barley and malt: International trade, calendar years, 1911-1921.

***************************************	Arraraga	1911-1913	10	019	11)20	1921		
C	Average,	1311-1313	1.	,,,,	1				
Country.	Imports	Exports	Imports.	Exports	Imports	Exports.	Imports.	Esports.	
PRINCIPAL EXPORTING COUNTRIES. Algeria. Algeria. Austria-Hungary British India. Bulgaria. Canada. Chine. Chine. Rumana. Rumana. Russia. Umted States.	1,000 bushels. 208 1, 310 839 26 166 155 61 109 974	1,000 bushels 1,720 917 18,271 17,129 1,790 6,670 631 680 16,692 168,461 8,100	1,000 bushels 47 1,123 77 (2) 12 20	1,000 bwshels 17,606 1,871 598 13,172 2,772 681	1,000 bushels 1, Lot 11, 142 201 3 57 3	1,0,0) bushels 1,71,2 2,337 251 2,951 2,98 19,412 21,718	1,000 b) shels 1,08 2 (83 11,989 27 23 32	1,70m busher 0,354 2,230 1,6 1,4m 12,553 3,537 50	
PRINCIPAL IMPORT- ING COUNTRIES.	00.000	0.071	0.7/1	993	5 140	100	70.010	0 413	
BelgiumBrazil.	20, 236 978	3,853	$2,581 \ 622$	320 (2)	5, 148 775	139	13,348 537	2,616	
British South Africa . Cuba	351 278	2	7°3 413	87	346 276	3	48	(2)	
Denmark Egypt France Finland	2,098 889 7,155 526	3, 561 38 639 1	2,699 103 15,276 627	177 7 353	16 710 3,362 71	926 2 1,210	1,570 310 s 3,385 81	2, 175 628 8, 156	
Germany Italy Netherlands Norway	153, 541 815 41, 184 4, 333	1, 225 27 29, 611 (2)	1,306 7,125 782	112 41	4,901 1,608 3,072 1,211	57 23 1,219 (2)	1,922 7,581 2,114	(²) 336	
Switzerland United Kingdom Other countries	4,440 $51,727$ $1,604$	932 15, 500	1, 370 38, 906 2, 505	(2) 220 8,787	1,386 2),796 3,268	1 364 7,486	3,048 36,976 1,663	$^{(2)}_{1, 159}_{6, 735}$	
Total	294,096	290,611	75,730	9,665	6,538	72,535	76,054	75,931	

¹ Austria only.

Less than 500.

³ Reexports exceed imports.

RYE.

Table 100.—Rye: Area and production in undermentioned countries.1

		Aı	ea.			Produ	etion.	
Countiy.	Avei- age, 1909- 1913	1920	1921	1922 2	Average, 1900-1913.	1920	1921	1922 2
NORTHERN HEMISPHERE.								
NORTH AMERICA	1,000	1,000	1,000	1,200	1,000	1,000	1,000	1,000
Canada 3 United States 3	40168. 117 2,236	650 4,409	1,842 4,228	2,410 5,148	bushels. 2,094 39,093 70	bushels. 11,306 00,490	bushels. 21,475 57,918	bushels. 49,602 79,623
Mexico.					70			
Total North American countries marked 3	2, 353	5, 059	6,070	7,558	38, 187	71,796	79, 373	129, 225
EUROPE.								
United Kingdom England and Wales	48	96	79					
Scotland Treland	6 8	7 6	6	6				
Norway	4 37	36	36		971	970	1,043 27,811 12,201 17,987 21,273	
Sweden 3. Denmark 3	977	914 560	913 559	872 547	23, 859 18, 098 16, 422 22, 675	22, 434	12, 201	23, 031 12, 351 13, 252 18, 598
Notherlands 3	557	492 523	199 559	491 531	16, 122	13, 212 14, 795	17,987	13, 252
Luxenburg.	26	20	20	0.01		18, 168	488	1
Sweden 2 Denmark 4 Notherlands 4 Belginm 3 Luxemburg France 3 Spain 8 Portugal Italy 4 Switzerland 8 Germany 8 Austria 3 Czechoslovakia 3 Hungai y 2	5 2, 960 1, 987	2, 148 1, 799 762	2,227 1,786	2,087 1,702	5 48, 6 47 27, 635	32, 130 27, 830 5, 151	44,392 28,118	57, 510 27, 340
Italy 3.	5 303 5 60	5 282 52	6 287 50	322 48	⁵ 5, 328 1, 783	15 1.539	66,519	5,911
Germany 8	5 15, 387	10,588	10,539	10,250	5 415, 222 5 112, 752	1, 522 194, 255	1,559 267,618	1, 488 210, 582
Austria 3	5 5,019	711 2, 238	758	831 2,178	112,752	10,046	12,661 53,735	12,900 45,798
Hungary 8	5 2,601	1, 475	2, 181 1, 370	1,340	5 48,716	20, 561	23, 177	22, 361 7, 100
Hungary ³ . Yugoslavia ³ . Serbia ³ .		578	562	585	5 1, 533	6, 507	6, 263	7,100
Serina * Bosnas-Herzegovina * Croatia-Slavonia * Bulgaria * Rumania * Poland * Lithnania Latvia Esthonia	5 39				6 4 44			
Groatia-Slavoma *	4 185 4 530	464	489	482	5 2, 231 5 8, 553	6,056	6,693	7 204
Rumama 3	6 317	777	807	660	4,652	9, 676	9,023 167,558	7, 204 7, 100 202, 067
Poland 4	6 5, 261	7, 236	8,866 1,249	11,225	5 90, 494		167,558 21,047	
Latvia		486	560	593		4,686	9,806	7,823
Esthonia	6 592	603	353 606	578	6 11, 174	9, 173	5,908 10,385	7,776
Finland . Russia, including Ukraine and Northern Caucasia	665, 122				6 798, 742			
Total European countries marked ³	38, 165	31, 440	33,058	31,729	890, 218	197, 637	717,006	662, 502
AFRICA AND ASIA.						- =		=======================================
Algeria Russia, Asiatic	(⁷) 2, 451	(1)	(7)	(7)	(7) 21,663	4	5	1
Total African and Asiatic countries marked 3.								
Total Northern Hemisphere			tin in .		_======================================	-2		
countries marked *	40,518	36, 499	39, 128	42, 287	928, 405	569, 433	796, 379	702, 117

¹ Official sources unless otherwise stated.
2 Figures for 1922 and 1921-22 compiled from reports received up to Nov. 15, 1922.
3 Countries reporting for all periods either as listed or as part of some other country.
4 Three-year average.
5 Old boundaries.
5 Old boundaries.
6 Includes 886,000 bushels grown in the new territory of Venezia Tridentina and Venezia Guha.
7 Less than 500.

RYE-Continued.

Table 100.—Rye: Area and production in undermentioned countries1—('ontinued.

Annual Control of the		Ar	ea			Produ	ction	
Country.	Aver- age, 1908-9 to 1912-13.	1919–20	1920-21	1921–22²	Average, 1908-09 to 1912-13.	1919-20	1920-21	1921-223
SOUTHERN HEMISPHERE. Chile 3	1,000 acres. 46	1,000 acres. 4	1,000 acres. 3	1,000 acres. 3	1,000 bushels. 4 141 1	1,000 bushels 53	1,000 bushels. 74	1,000 bushels. 50
Argentina. Umon of South Africa. Australia. New Zealand.	4 68 6 108 9 5	141 (⁷)			4 949 6 608 108 97	596 32		
Total Southern Hemisphere countries marked 3	6	4	3	3	144	53	74	50
World total, all countries marked 3	40, 524	36, 503	39, 131	42, 290	928,549	569, 486	796, 153	792, 167
World total, all countries re- porting	108, 412	38, 061	41, 440	42, 879	1, 755, 412	581, 268	831, 750	799, 994

Table 101.—Ryc: World production so far as reported, 1895-1922.

Year	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1895	1,300,645,000 1,461,171,000 1,583,179,000	1902 1903 1904 1905 1906 1907 1908	1, 433, 395, 000	1909 1910 1911 1912 1913 1914 1915	Bushels. 1, 747, 123, 000 1, 673, 473, 000 1, 753, 933, 000 1, 886, 517, 000 1, 880, 387, 000 1, 596, 882, 000 1, 583, 206, 000	1916	Bushcls. 1, 432, 786, 000 1 473, 152, 000 1 561, 165, 000 1 638, 745, 000 1 581, 268, 000 1 834, 750, 000 1 799, 994, 000

¹ Russia not included. In 1915 Russia produced about 57 per cent of the reported world production.

Table 102.—Rye: Average yield per acre in undermentioned countries, 1890-1922.

Year.	United States.	Russia (Euro- pean).	Germany.	Austria.	Hungary proper.	France.	freland.
Average: 1890-1899. 1900-1909. 1910-1919.	Bushels. 13. 9 15. 7 12. 7	Bushels. 10.4 11.5 2 11.8	Bushels. 20. 9 25. 6 25. 2	Bushels. 16. 1 19. 0 18. 0	Bushels. 17.6 3 18.4	Bushels. 117.6 117.1 15.6	Bushels. 25. 2 27. 5 1 29. 3
1919 1920 1921 1922	12. 0 13. 7 13. 7 15. 5		22. 1 18. 3 25. 4 20. 5	12.6 14.1 16.7 15.6	13. 9 16. 9 16. 7	15. 2 15. 0 19. 9 18. 0	

¹ Winchester bushels. ² Seven-year average.

Official sources unless otherwise stated.
 Figures for 1922 and 1921-22 compiled from reports received up to Nov. 15, 1922.
 Countries reporting for all periods either as listed or as part of some other country.
 Two-year average.
 Less than 500.
 One year only.

⁸ Six-year average.

⁴ Nine-year average.

RYE-Continued.

Table 103.—Rye: Acreage, production, value, exports, etc., in the United States, 1849–1922.

[See headnote of Table 4]

-										
	Acre-	Aver-		Avei-	_	Chi	cago cas bushel	sh price , No 2.	Der	Domestic exports, including
Year.	age har- vested.	age yield per acre.	Produc- tion.	farm price per bushel	Farm value Dec. 1.	Dece	mber.		owing ay.	rye flour, fiscal year
				Dec. 1.		Low.	High.	Low.	High.	beginning July 1.
1849	1,000 acres.	Bush.	1,000 bushels. 14,189	Cents.	1,000 dollars.	Cts.	Ctc.	Cts.	Cts	Bushels.
1859 1866–75 1876–85 1886–95	1, 347 1, 892 2, 188	13 6 13 2 12.8	21, 101 18, 267 21, 625 27, 975	79. 7 63. 7 54. 4	14, 559 15, 540 15, 278	80 64 52	90 68 56	97 68 55	107 75 60	540, 342 2, 890, 991 1, 827, 551
1896	2, 126 2, 077 2, 071 2, 054 2, 042	13 6 16. 1 15 9 14 8 15. 1	28, 913 33, 433 32, 888 30, 334 30, 791	38 8 43. 2 44. 5 49. 6 49. 8	11, 231 14, 454 14, 640 15, 046 15, 341	37 453 523 49 453	42½ 47 55½ 52 49¾	323 48 563 53 514	35½ 75 62 56¼ 54	8, 575, 663 15, 562, 035 10, 169, 822 2, 382, 012 2, 345, 512
1901	2,033 2,051 2,074 2,085 2,141	15 3 17. 2 15 4 15 3 16. 4	31, 103 35, 255 31, 990 31, 805 35, 168	55 1 50 5 51.0 68 9 60.4	17, 220 17, 798 17, 272 21, 923 21, 241	59 48 50½ 73 64	653 494 521 75 68	54½ 48 69¾ 70 58	58 50} 78 84 62	2,712,077 5,445,273 784,068 29,749 1,387,826
1906. 1907. 1908. 1909. 1910 ¹ .	2, 186 2, 167 2, 175 2, 176 2, 185	16. 7 16. 4 16. 4 16. 1 16. 0	36, 559 35, 455 35, 768 35, 406 34, 897	58 5 72 5 72 8 72 2 71. 5	21, 381 25, 709 26, 023 25, 548 24, 953	61 75 75 72 80	65 82 77‡ 80 82	69 79 83 74 90	87½ 86 90 80 113	769, 717 2, 444, 588 1, 295, 701 242, 262 40, 123
1911 1912 1913 1914	2, 127 2, 117 2, 557 2, 541	15 6 16. 8 16. 2 16. 8	33, 119 35, 664 41, 381 42, 779	83 2 66 3 63 4 86.5	27, 557 23, 636 26, 220 37, 018	91 58 61 107]	94 64 65 1121	90 60 62 115	$95\frac{1}{2}$ 64 67 122	31, 384 1, 854, 738 2, 272, 492 13, 026, 778
1915	3, 129 3, 213 4, 317 6, 391	17.3 15.2 14.6 14.2	54,050 48,862 62,933 91,041	83. 4 122. 1 166. 0 151. 6	45, 083 59, 676 104, 417 138, 038	94 <u>3</u> 130 176 154	98½ 151 184 164	96½ 200 180 145½	99½ 240 260 173	15, 250, 151 13, 703, 499 17, 186, 417 36, 467, 450
1919	6, 307 4, 409 4, 528 6, 210	12. 0 13. 7 13. 6 15. 4	75, 483 60, 490 61, 675 95, 497	133, 2 126, 8 69, 7 69, 2	100, 573 76, 693 43, 014 66, 085	149 144 84 83§	182 167 89 81 <u>1</u>	198 1354 974	229 167 111	41,530,961 47,337,466 30,163,852

¹ Acreage adjusted to census busis.

² Preliminary estimate.

Yearbook of the Department of Agriculture, 1922.

RYE-Continued.

Table 104.—Rye: Acreage, production, and total farm value, by States, 19:1-19:2.

Stale.	Thous:	ands of	Products sand, of	on (thou- bushel.)	Total value, basis Dec. I pro-a (thou and cof- dollars).		
	1921	1922 1	1921	1055 1	11)21	10221	
Massachusetts Connectient New York New Jersey Pennsylvania	2 5 52 57 200	61 61 220	30 95 805 953 3,290	57 100 850 1,159 3,710	72 142 798 1,013 2 071	80 150 854 985 2 254	
Delaware Macyland Virginia. West Virginia. North Carolina.	4	5	14	70	14	74	
	17	17	971	253	219	251	
	38	49	113	466	397	111	
	10	10	120	120	114	114	
	39	40	273	220	311	384	
8 Juth Carelina.	5	6	50	60	125	108	
Georgia	12	18	103	171	189	220	
Ohio	83	87	1,070	1 235	906	1,025	
Indiana	306	318	2,478	2, 845	2,401	2,015	
Illunois.	197	250	3,249	1, 030	1,679	3,072	
Michigan Wisconsin Mumesota Lova Missouri		618 489 1,151 60 28	8, 446 5, 046 11, 200 564 536	8, 294 7, 159 21, 926 1, 140 336	5,812 8,53 6,914 412 289	6,303 5,140 11,966 798 312	
North Dakota	930	1,581	10, 230	24 509	5,083	14, 704	
South Dakota	191	139	3 056	7, 902	1,772	1, 583	
Nebraska	151	183	1, 918	2, 106	1,151	1, 369	
Kansas	101	71	1, 141	852	776	596	
Kentucky.	18	20	180	230	202	253	
Tennessee		20	152	180	205	214	
Alabana		1	12	5	19	8	
Texas		13	156	117	156	116	
Oklahoma		31	168	310	269	218	
Arkansas		1	9	12	12	12	
Moniana	116	126	1,299	1,827	688	987	
Wyoming	24	21	501	294	202	153	
Colorado	92	97	1,058	873	635	576	
New Mexico	5	2	70	8	49	8	
Utah.	15	12	140	120	98	72	
Idaho	12	11	216	165	151	111	
Washington	21	19	294	169	191	161	
Oregon	39	37	554	444	377	377	
United States	4, 528	6,210	61,675	95, 497	43,014	(91, 085	

¹ Preliminary estimate.

640

Table 105 —Rye: Condition of crop, United States, on 1st of months named, 190?-190?.

Year.	De- cem- ber of pre- vious year.	April.	May.	June.	When har- vested.	Year.	De- cem- ber of pre- vious year.	April.	May.	June.	When har vested.
	P. ct.	P. st.	P. ct.	P.ct.	P. ct.		P. ct.	P. ct.	P. et.	P. ct.	P. et.
1902	89.9	85.4	83.4	88.1	90, 2	1913	93. 5	89.3	91.0	90.9	88.6
1903	98.1	97.9	93.3	90.6	89.5	1914	95.3	91.3	93.4	93, 6	92,9
1904	92.7	82.3	81.2	86.3	88.9	1915	93.6	89. 5	93.3	92. 0	92.0
1905	90.5	92.1	93.5	94.0	93, 2	1916	91.5	87. 8	88. 7	86. 9	87.0
1906	95.4	90.9	92.9	89. 9	91.3	1917	88. 8	86. 0	88.8	81.3	79.4
1907		92.0	88.0	88.1	89.7	1918	84.1	85.8	85. 8-		89.8
1908	91.4	89.1	90.3	91.3	91.2	1919	89.0	90.6	95.3	93.5	85, 7
1909	87.6	87. 2	88.1	89.6	91.4	1920	89.8	86.8	85.1	84. 4	83.5
1910	94.1	92.3	91.3	90.6	87. 5	1921	90. 5	90.3	92.5	90.3	89, 9
1911	92.6	89.3	90.0		85.0	1922	92 2	89.0	91.7	99.5	
1019	02.2	97.0	077 7	88.6	1 30.0	1 ~~~~	32 2	1 0n. u	, 4, ,		

RYE-Continued.

Table 106.—Rye: Forecasts of production, monthly, with preliminary and final estimates.

Year.	May.	June.	July.	August production estimate.	Final estimate.
1916. 1917. 1918. 1919. 1920. 1921. Average. 1922.	1,000 bus. 44,255 60,735 82,629 108,725 79,789 72,007 74,690	1,000 bus. 43,537 57,866 81,046 107,381 80,006 71,011 73,474	1,000 bus. 44,001 56,098 81,604 102,689 81,997 69,956 72,724 81,998	1,000 bus. 41,884 56,641 76,687 84,552 77,893 61,332 66,899	1,000 bus. 48,862 62,923 91,041 75,483 60,490 61,675 66,747

¹ Preliminary estimate

Table 107.—Rye: Yield per acre, price per bushel December 1, and value per acre, by States

									State	38									
	Y16	eld p	er ac	ere (1	oush	els).			Fa	rm 11	n ice j	er bi	ishel	(cent	s).			0.0	e per re ars).
State.	5-year aver- age, 1918-1922.	1918	1919	1920	1921	1922	10-year aver- age, 1913-1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year a v c 1 - age, 1917-1921.	1922
Mass Corm N. Y N. J Pa	19.8 16.3 17.7	22. 0 16. 5 18. 5	20.0 16.0 16.0	18.0 17.5	19. 0 15. 5	(19.0)	151 121 124	98 92 75 80 71	101 98 89 82 83	102 102 93 92 84	127 125 128 117 109	200 210 184 175 170	227 205 172 173 165	175 200 150 160 157	195 171 158 170 140	175 150 99 102 95	150 97 85	37, 00 37, 59 26, 07 27, 52 23, 93	30, 00 15, 52 16, 15
Del	11.6 12.3	12.0 13.7	$\frac{11.5}{13.0}$	12.0 11.0	111 0	$\frac{11.5}{12.0}$	124 122 123 125 148	79 76 81 87 98	92 86 90 90 105	99 88 93 93 165	123 110 107 119 130	178 168 175 169 200	171 170 175 180 198	160 163 170 165 210	136 156 155 160 190	100 92 95 95 125	110 90 95 120	21, 10 22, 42 19, 17 19, 59 16, 66	16. 72 10. 35 11. 40 9. 60
S. C. Ga. Ohio. Ind. Ill.	9. 2 14. 9 13. 9 16. 8	8. 8 17. 0 16. 5 19. 0	8.9 16.0 14.0 16.5	10.0 14.4 14.0 15.6	9. 0 13. 0 13. 0 17. 0	9.5 14.2 12.0 16.0	224 186 111 108 108	150 135 69 62 65	150 150 81 85 85	151 140 83 82 83	185 160 120 119 122	285 270 161 160 165	295 210 150 152 150	295 272 145 140 130	300 210 135 130 130	250 175 84 73 80	135 83 79 75	29, 81 20, 37 21, 61 19, 27 22, 54	12. 82 11. 79 9. 48 12. 00
Mich Wis Minn Iowa Mo	15.5 17.7 17.4 12.2	17.6 20.0 19.0 14.0	15.8 15.0 15.9 12.0	16.0 17.0 17.0 12.0	13.6 17.5 16.1 11.2	14.6 19.0 19.0 12.0	109 109 104 103 115	62 57 48 60 75	91 91 89 77 87	85 87 81 80 86	130 132 127 115 123	165 1 69 167 1 <i>5</i> 5 165	150 150 150 147 163	128 133 130 132 150	130 130 122 117 125	70 71 62 73 86	72 68 70 93	17.96 21.83 22.40 21.69 17.94	10. 51 12. 92 13. 30 11. 16
N. Dak S. Dak Nebr Kans Ky	13, 4 12, 3 11, 8	12.9	16.3	14.1	12.7	11, 21	100 97 96 106 129	45 50 60 75 87	84 78 74 80 95	79 76 73 76 94	125 118 116 110 129	164 155 155 167 175	145 141 135 170 161	121 125 115 141 175	119 109 103 100 150	58 58 60 68 112	58 65 70	11.75 18.09 16.50 16.78 18.80	10. 44 7. 28 8. 40
Tenn Ala Tex Okla Ark	$\begin{array}{c} 9.7 \\ 11.9 \\ 12.4 \end{array}$	11.0 5.4 11.0	9.5 17.0 14.0	10.9 16.0 15.0	8.0 12.0 12.0 12.0 19.0	5.0 9.0 10.0	147 191 140 114 142	99 140 101 86 95	98 110 99 95 105	103 135 103 77 100	135 175 120 125 115	195 268 196 170 150	192 261 235 187 210	200 260 167 150 200	190 250 150 100 220	135 160 100 66 130	153 125 80	16, 44 25, 06 19, 34 16, 30 19, 00	7.65 11.25 8.00
Mont Wyo. Colo. N. Mex Utsh	16. 0 9. 6 14. 6 9. 5	18. 0 7. 0 20. 0 13. 0	9. 0 8. 8 20. 0 7. 0	18.0 11.8 15.0 8.3	9.3	9.0 4.0 10.0	100 108 95 114 110	55 64 60 83 60	70 81 65 88 60	65 90 70 65	96 108 105 140 100	165 155 146 160	144 152 140 204 180	185 180 130 200	108 115 105	53 58 60 70 70	52 66 100	11.67 19.63 12.78 13.83	7.28 5.94 4.00
Idaho Wash Oreg	10.9	10.0	12.0	9. 5	14-0	8.9	100 121 122	58 60 75	67 85 100	68 75 90	95 111 115	135 175 170	165 200 205	175 185 190	100 160 125	70 65 68	95	19. 35 17. 74 16. 95	8.46

RYE-Continued.

Table 108.—Rye: Farm price, cents per bushel on 1st of each month, 1908-1922.

													,
Year	Jan.	Feb	Mar.	Apr.	May.	June	July	Aug	Sept.	Oct.	Nov.	Dec.	A ver- age.1
1908	73 3										73. 7	73, 6	
1909	73 4 74. 8	76.1	76 5	76 6	74.9	71.8	74.6	74.4	74.1	72. 8 72. 8	71.6	71 5	73.7
1911 1912	73 3 82.7	73 1 84 4	71 9 84 0		75. 8 84. 6				76 9 70.8	79 7 70. 1	83 1 68, 8	83. 2 66-3	
1913	63. 8 62. 5						63. 2 63 1		63.0 75.4			63. 4 86. 5	63 8 72 8
1915	90. 2 85 3	100.6	105. 4	100.4	101.9		93.7	89.0	85. 5		85.7	83.4	89 2 99. 7
1916	118.5			135.6	164.1	183.0	177.1	178, 1	161.9	169, 8	168-8	166, 0	156.5
1918	170.3 150.7				155 5	143 7	138.6	163 9 149 7	138.3		152 6 129 8		
1920	152 3 121 7			156. 1 118. 7		183.9 112.2	189.0 103.8				$142 \ 1$ 74.6	126.8 69.7	155 1 96 4
1922	69 6	70.4											70.1
A verage, 1913-1922.	108.8	111 5	113.0	118.5	122.8	120.9	115.9	112.3	110.5	110.3	107.9	107.2	111.0

¹ Weighted average.

Table 109.—Rye: Monthly and yearly average price per bushel of No. 2. Chicego, 1909-10 to 1921-22.

('rop year.	Tuly	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr	May	June.	Yearly aver- age.
1909-10 1910-11 1911-12 1912-13 1913-14	\$0. 79 . 77 . 84 . 74 . 63	\$0.71 .75 .85 .72 .66	\$0. 72 . 74 . 91 . 69 . 67	\$0.73 .76 .97 .69 .65	\$0. 74 . 79 . 95 . 64 . 64	\$0.77 .81 .93 .61 .63	\$0. 81 . 84 . 94 . 64 . 61	\$0.81 .82 .92 62 62	. 89	\$0.79 .95 .94 .62 .62	\$0 77 1.02 .93 .62 .65	\$0.76 .90 .83 .62 .63	\$0.76 .84 .91 .65 .64
Av. 1909-1913	.75	.74	.75	.76	. 76	.75	.77	.76	.76	.78	.80	.75	.76
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	. 64 1. 08 . 98 2. 27 1 73 1. 55 2. 04	.84 1.00 1.13 1.90 1.67 1.54 1.90	. 95 . 96 1. 20 1. 86 1. 63 1 40 1. 99	. 92 1. 01 1. 33 1 84 1. 63 1. 38 1. 69	1. 02 . 99 1. 47 1. 78 1. 68 1. 42 1. 59	1. 10 . 97 1. 41 1 82 1. 59 1. 66 1. 61	1. 19 1. 01 1. 43 2. 01 1. 61 1. 76 1. 63	1. 23 . 97 1. 46 2. 39 1. 38 1. 56 1. 47	1. 17 . 93 1. 61 2. 84 1. 61 1. 72 1. 46	1.17 .96 1.87 2.64 1.73 1.99 1.35	1. 19 . 98 2 20 2. 20 1. 59 2 13 1. 47	1. 17 . 98 2. 40 1. 80 1. 46 2. 27 1. 32	1. 05 . 99 1. 54 2. 11 1. 61 1. 70 1. 62
Av., 1914-1920	1.47	1.43	1. 43	1.31	1.44	1.45	1.52	1.49	1.65	1,67	1.68	1, 63	1.52
1921–22	1. 27	1.07	1.04	. 86	. 79	86	. 81	. 97	1.02	1.04	1.06	.90	. 97

¹ Compiled from Chicago Daily Trade Bulletin.

Table 110.—Rye: Monthly and yearly receipts at markets named, 1909-10 to 1921-22.1 [In thousands of bushels, i. e., 000 omitted]

Year.	Minne- apolis.	Duluth.	Chicago.	Winni- peg.	Milwau- kee.	Omaha.
1909-10. 1910-11. 1911-12. 1912-13. 1913-14.	2, 444 1, 518 2, 453 5, 943 5, 538	902 134 759 2,341 1,357	1,362 1,121 2,077 3,299 3,206		1,033	
Average, 1909-1913	3, 579	1,009	2,213		1,950	*******
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	5, 737 6, 774 7, 118 11, 923 16, 467 9, 325 5, 428	4,323 4,216 2,812 3,482 16,115 17,027 14,631	3,274 5,651 5,459 3,766 8,467 6,119 4,132	212 970 1,172 2,832		1,048 1,121 1,782 1,630 1,409
Average, 1914-1920	8,955	8,944	5,267	2 1, 296	3,658	* 1,398
1921-22 1922-23	4,754	17, 446	4,235	5, 297	2,282	2,048

RYE-Continued.

Table 110.—Rye: Monthly and yearly receipts at markets named, 1908–10 to 1921-22—Continued.

Month.	Minne- apolis.	Duluth.	Chicago.	Winni- peg.1	Milwau- kee	Omaha.
July	792 542 874 258 390 231 277	509 2,956 3,894 1,414 851 779 539 508	944 980 207 106 504 128 70 225	632 786 621 447 211 119	177 513 158 110 70 103 85 303	61 364 321 235 87 174 133 137
MaichApril	145	2,109 660	222 105	271 176	218 170	204 126
May June July August				352 128 172 1,382	275 100	155 51

¹ Crop year starts in September

Table 111.—Rye (including flour): International trade, calendar years 1911-1921.

C) constant	Average,	1911-1913	19	019	19	920	19	921
Country.	Imports.	Exports	Imports	Exports	Imports	Exports.	1mports	Exports.
PRINCIPAL EXPORTING COUNTRIES. Argentina Bulgana Canada Cermany Rumana Russia United States	1,000 bushels. (1) 1 86 16,900 49 5,231	1,000 bushels. 443 2,336 69 41,951 3,411 34,921 855	1,000 bushels. 10	1,000 bushels. 160 1,897	1,000 bushels. 21 17,396	1,000 bushcls. 500 17 3,143 850 1,632	1,000 bushers.	
PRINCIPAL IMPORTING COUNTRIES. Austria-Hungary. Belgium Donmark. Finland. France Italy. Netherlands. Notway. Sweden Switzerland United Kingdom Other countries.	1, 224 6, 157 8, 587 15, 472 4, 138 7, 10, 520 3, 769 7, 195 511	19 914 303 47 7 2 18,870 42 40 14 352	1,721 396 4,672 660 379 1,900 6,190 1,632 1,620	1 748 (1) 15 9 483 4 96 (1) 3 53	2 2, 311 4, 097 90 2, 518 16, 351 2, 391 602 8, 402 4 153 2, 097 692	64 965 (1) 1.4 (1) 2,089 10 681 2 192 608	2 2,347 531 134 3,083 1,664 2,744 1,796 4,571 (1)715 1,715	222 677 534 1,626 22 3,039 (1) 648 49
Total	107,343	107,587	19,342	43,963	57,100	70,620	19,424	41,454

¹ Less than 500.

² Austria only.

BUCKWHEAT.

Table 112.—Buckwheat: Acreage, production, value, exports, etc., in the United States. 1849-1922. - d-- - d-- - C / 11 - 1 - 1

					[Se	e headnote	of Table	1 [
Year.	Acreage.	Average yield per acre.	Production.	Average farm price Dec. 1.	Farm value Dec. 1.	Domestic exports year beginning July 1.	Year.	Acreage.	Average vield per	P10 Inction	Average farm price De. 1.	i am value Pec. 1.	Pome-tie exports Near beginning July 1.
1849 1859 1866-75 1876-85. 1886-95	1,000 acres. 730 799 879	18 3	1,000 bus. 8,957 17,572 13,369 11,016 12,854	72. 8 66. 2	7,510		1907 1908 1909 19101	1,000 aeres 838 853 878 860 833	10 1	16, 541 17, 983	75 7 70. 2 66. 1	1,700 10,107 10,107 12,118 12,628 11,636 12,71	158, 702 158, 160 223
1896 1897 1898 1899	853 838 811 807	18. 5 20. 6 17. 2 16. 1	17, 260	39 3 12. 1 15. 0 55. 9	7,259 6,278	1,677,102 1,370,403 1,553,980 126,822		811 805 792 769	22. 0 17. 2 24. 0 18. 6	13, 5 "	75. 1	10, 117	5.0 (3.0)
1900 1901 1902 1903	795 852 856 870	14.9 18.1 17.9 17.5	15,693	55. 8 56. 4 59. 6 60. 8	6, 588 8, 857 9, 110 9, 277	719, 615	1917 1918	\$28 921 1,027 700	14, 1 17, 7 16, 5 20, 6	16,022	166. 5	25,601 25,149	250, 102 5, 567 119, 516 211, 785
1904 1905 1906	876 810 865	18.6 18.8 18.2	16, 327 15, 797 15, 731	62. 5 58-6 59. 7	10, 208 9, 261 9, 386	316, 399 696, 513 199, 129	1920 1 1921 1922 3	701 680 785	18.7 20.9 19.2	13, 142 14, 207 15, 050	81.2		399, 137 21-1, 766

Table 113.—Buckwheat: Acreage, production, and total farm value, by States, 1921-22.

State.	Thousand	ls of acres.		on (thou- bushels).	Dec 1 n	tue, basis rice (thou- f dollars).
	1921	1922 1	1921	1922 1	1921	1922 1
Maine. New Hampshire. Vermont. Mussachusetts. Connecticut	1 1	13 1 4 1 2	351 21 88 13 35	351 25 96 25 36	351 18 79 22 49	386 31 88 34 50
New York New Jersey Pennsylvania Delaware. Maryland	225 7	208 10 248 4 9	4,150 168 5,175 98 171	4,368 220 5,208 76 185	3,444 168 3,881 74 145	4, 368 253 4, 160 61 159
Virginia. West Virginia. North Carolina. Ohio. Indiana	17 31 5 21	17 33 5 25 6	357 682 85 525 114	332 693 100 500	298 559 72 551 114	272 589 97 400 90
Illinois. Michigan. Wisconsin. Minnosota. Iowa	4 39 40 28 5	6 62 25 75 5	70 624 596 448 75	84 868 360 1,050 70	77 487 447 314 60	71 694 313 840 88
Missouri South Dakota Nebraska Kentucky. Tennessee.	1 8 1 8 3	1 12 1 9 3	14 112 16 160 54	13 96 16 144 44	21 90 13 160 51	16 67 14 130 35
United States	680	785	14,207	15,050	11,540	13,312

Acreage adjusted to census basis
 Including buckwheat flour Jan. 1 to June 30, 1922.
 Freliminary estimate.

BUCKWHEAT-Continued.

 $\begin{tabular}{ll} \textbf{TABLE 114.--Buckwheat: } Condition of crop, United States, on first of months named, \\ 1902-1922. \end{tabular}$

Year.	Aug	Sept.	When har- vested	Year.	Aug	Sept.	When har- vested.	Year	Aug	Sept	When har- vested.
1902 1903 1904 1505 1906 1907	92 6	P ct 86 4 91 0 91.5 91.8 91.2 77.4 87.8	P & 50 5 83 0 88 7 91 6 81 9 80 1 81.6	1909. 1910. 1911. 1912. 1913. 1914. 1915.	87 9 82 9 88 1 85 5	P. ct 81 0 82 3 83 8 9 6 75.4 87 1 88 6	P. ct 79 5 81 7 81 7 89 2 65 9 8) 2 81 9	1916. 1917. 1918. 1919. 1920. 1921. 1922.	88 6 88 1	P ct 78 5 90 2 83 3 90 1 91 1 85 6 85 7	P d 66 9 71 8 75 6 88 0 85 6 87 4 83 8

Table 115.—Buckwheat: Forecasts of production, monthly, with preliminary and final estimates.

Year.	August	September	October.	November production estimate,	Final estimate.
1912 1913 1914 1915 1916 1917 1918 1919 1920	1,900 bushels 16,000 17,000 16,897 17,651 17,111 19,876 20,623 18,002 11,790	1,000 bushels 18,000 15,000 17,106 17,556 15,788 20,226 20,093 19,193 15,528 15,042	1,000 bush: is 18,009 14,000 16,882 16,738 13,922 17,895 19,473 20,076 15,532 14,263	1,000 bushels. 19,124 14,455 17,025 16,350 11,447 16,813 18,370 20,120 11,321	1 000 bn,hels 19, 249 13, 833 15, 881 15, 686 11, 662 16, 905 14, 309 13, 142
A verage	17,091	17, 103	16, 675	11, 894 16, 292 13, 643	11, 207 15, 136 15, 050

¹ Preliminary estimate.

BUCKWHEAT-Continued.

Table 116.—Buckwheat: Yield per acre, price per bushel December 1, and value per acre, by States.

Barry grant and dispersion and delivery	Yi	eld r	er a	cre (hush	els).			F	um j	price	per bi	ushel	(cent	·;).	aphienis sera	-	ac	e per re ars).1
State.	5-year a ver- age, 1918-1922.	1918	1919	1920	1921	1922	10-year aver- age, 1913-1922	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year aver- age, 1917-1921.	1922
Me N. H Vt Mass Conn	20. 2 22 0 19 6	17 0 21.0 16.0	18. 0 22. 0	20.0 21.0 19.0	21. 0 22. 0 18. 0	25 0 24 0 25.0	119 115 132	56 66 80 80 95	60 70 82 84 95	70 81 82 95 96	95 100 105 140 120	183 150 166	196	170 160	140	125	125 92 138	26, 85 29, 83 27, 17	29. 70 31. 25 22 08 31. 50 25. 20
N Y N J Pa Del Md	19. 4 20. 3 17. 9	18. 0 18. 0 20. 5	18.0 21 6	18 0 18 0 18 0	21 0 23.0 14.0	22 0 21 0 19.1	119	81 76 73 69 75	76 83 76 76 81	80 83 78 75 72	122 108 111 118 110	158 163 148	170 100 143	150 140 160	150 120	100 75	115 80 80	26 81 25, 45 23, 96	21 00 25.30 16 80 15.28 17.72
Va W Va N. C Ohio Ind.	20.6 18.8 21.0	19. 5 20. 0 16. 0	$\frac{21.0}{17.0}$ $\frac{23.2}{2}$	19. 5 20. 0 20. 9	$\begin{array}{c} 22.0 \\ 17.0 \\ 25.0 \end{array}$	21 0 20 0 20 0	111 116 101 109 113	80 78 78 76 75	84 83 83 76 78	80 82 77 80	95 101 85 110 112		173 150 156		140 140 110 105 120		85 97 80	29, 76 23, 25 27, 09	15. 99 17. 85 19. 40 16. 00 15. 00
Mich Wis Minn	13. 7 15. 5 16. 4	10. 0 15. 9 17. 0	18. 0 13. 8 16. 2 19. 0 14. 0	14. 5 16. 0 16. 0	16. 0 14. 9 16. 0	14. 0 14. 4 14. 0	101	80 70 69 64 81	95 71 76 70 77	90 72 83 75 80	130 115 116 112 125	170 117 174 135 200	170 165 170	137 150 130	106	110 78 75 70 80	S0 87 89	15, 48 20, 43 20, 13	11. 90 11. 20 12. 53 11. 20 17. 50
S. Dak Nebr Kv	14.8 15 6 15 6	15. 0 14. 0 14. 0	15. 0 19. 0 16. 0 13. 0 15. 5	18 0 16. 0 15. 0	14. 0 16. 0 20. 0	8 0 16.0 16.0	134 113 107	85 	93 84 78	90 95 76	133 110 100		165	180 101	120	150 80 80 100 95	70 85 90	20. 91 16. 00	16. 25 5. 60 13. 60 14. 40 11. 60
U. S	19, 2	16. 5	20.6	18. 7	20.9	19. 2	111.4	75. 5	76. 4	78.7	112.7	160. 0	166. 5	146. 1	128.3	81.2	88.5	25. 24	16. 96

¹ Based upon farm price Dec. 1

Table 117.—Buckwheat: Furm price, cents per bushelon 1st of each month, 1908-1922.

Year.	January.	February.	March.	Aprıl.	May.	June.	July.	August.	September	October.	November.	December.	Average.1
1908 1909 1910 1911 1912	71.7 74.3 70.0 65 8 73.7	72. 0 74. 2 72. 0 64. 4 73. 6	75. 5 70. 6 64. 1	73. 4 65. 3	77 0 78. 8 71. 0 65. 8 79. 9	75. 8 83. 4 73. 7 70. 1 84. 8	86 0 86, 9 78, 0 72, 4 86, 2		80. 0 76. 9 72. 6 74. 0 76. 6	77. 2 75 0 71. 3 69. 6 69. 7	65. 9		76. 4 75. 0 69. 8 70. 3 72. 6
1913	66. 8 76. 6 77. 9 81. 5 117. 2	83. 7	75.1 85.5 83.2	76. 9 85. 3 83. 1	71. 4 77. 3 84 6 84. 9 150. 6	70. 8 79. 0 86. 9 87. 0 183. 7	72. 9 85. 5 92. 1 93. 1 209. 2	81, 2 89, 2 89, 0	70. 0 79. 8 81. 4 86. 4 164. 3	73. 7 90. 4	78.5 102.9	76. 4 78. 7 112. 7	72.4 77.9 81.0 94.7 153.2
1918 1919 1920 1921 1922	162. 7 162. 9 150. 7 125. 4 83. 5	161. 9 158. 1 154 9 118. 7 85. 4	148. 4 155. 7 116. 3	149. 6 163. 1 109. 3	147.3 168.8 115.9	165 6 180. 2 116. 1	160. 8 202. 7 115. 3	165.9 181.3 119.7	159. 8 176. 3 114. 4	162. 0 159. 4 106. 0	151.0 131.0 83.9	146. 1 128. 3 81. 2	154.7 152.0 102.4
Average, 1913-1922.	110.5	110.3	111.0	112.7	117. 0	125. 8	133.5	127.6	120.9	116.3	110.8	111.4	115.0

Table 118.—Flax: Area and production in undermentioned countries, 1909-1922.

		Area.	88.					Pro	Production.			
Country.	A					Seed.	ď.			Fiber,		
	1909–1913.	1920	1921	1922 1	Average, 1909-1913.	1920	1931	19221	Average, 1909-1913.	1920	1921	1922 1
NORTHERN HEMISPHERE,			in the same of the									
NORTH AMERICA.	1,990 acres. 1,035	1,000 acres. 1, 428	1,000 acres.	1,060 acres. 519	1,000 bushcls. 12,040	1,000 bushels. 7,998	1,000 bushcls 1,112	1,000 bushels 5,296	1,000 pounds.	1,000 pounds. 3411,160	1,000 pounds.	1,000 pounds.
Total North American countries marked 2.	3,525	3,185	1	1,341		10, 774	8,112	11, 725				
A Kingdom:	(5) 53 33 8 62 8 62 7 42 7 42 8 97 8 97	221 124 125 124 124 124 88 88 88 88 88 88 88 88 88 88 88 88 88	% 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	10 10 10 10 10 10 10 10 10 10 10 10 10 1	6 14 874 7 472 8 533 8 29 8 (94	17 628 8628 8628 862 52 386 386 386 386	249 274 274 274 46 394 394 300	315	23,701 61,128 71,276 731,838 840,623 6,239 8 53,116	38,125 1,515 31,418 152,831 152,831 5,046 5,071 4,904 28,830	10, 725 10, 853 20, 853 23, 333 1, 160 5, 510 8, 740 28, 693 18, 210	7,840 15,430 5,510

Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 19.2.
Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
Including flax tow.
Grown on 31,000 acres. Almost exclusively in Ontario.
Less than 500.
Bour-year average.
Three-year average.
Pre-war boundaries.
One year.

FLAX—Continued.

Table 118.—Flax: Area and production in undermentioned countries, 1909-1922.—Continued.

		Area.	ģ					Proc	Production.			
Country	4					Seed.	d.		(Signatura Anna Anna Anna Anna Anna Anna Anna An	Fiber.		
	Average, 1909–1913.	1920	1921	1922 1	Average, 1909–1913.	1920	1921	19221	Average, 1909–1913.	1920	1601	1922 1
Northern Hemisphere—Continued. EUROPE—continued.				1								April 18 Blood of the control
bja, Croatia-Slavonia, and Bosma-Herzego-	1,000 acres.	1,000 acres.	1,000 acres	1,000 acres.	1,600 bush-is. b	1.000 bushels.	1.000 bushels.	1,000 bushete	1.000 pounds.	1,000 pounds	1,020 1,000 pounds. · pounds.	1,000 pounds.
lgaria 2 mania 2		- î	212	C1	3 2 2	103	15	15	: ### ### ###	350	670	650
land 2 husms 2	3	121	121		(2)	794	1, 257		(I5)	135	92,614	
Lyde 2 km 2 k		25.5	រីខេ	16		917		090		21.15	3,570	36,950
light cen indiadam Hereina and Marthem Con	7.12	37	37			257	2			11.000	, 018,61	
asia 2	353,409	1, 538	681,775		35 21, 338	683,226	\$3.9,601		35 1, 255, 973	6 100,000	- 124,653	150,000
Total European countries marked 2	8,520	2 365	2,412		117,12	8,950	7,774		1,459,954	621,723	£9.5°s	
AFRICA.												
rocco (French, Western).		10 1	(1.)	-	11	923	16.54	٦.9		1-230		
ns 2 7pt		Ø 9	တတ္	₩ ₩	37	33	l &C.	#		5,151		
1ya			25.				7				109,501	
Total African countries marked *					4	, Mo	64					
is: Pritich	i i	200										
Native States Total 14 2	र हार् हार्	3,103	2,338	2, 443	19, 570	16,700	10, Sou .	17,300				

atic Russia	3 376	213	(\$)		\$ 2, 123	(3)	(B)		\$ 127,613		-	
ne	13	103		40	4 98		631	976	5,142		24 950	10,770
Total Asiatic countries marked 2	3,818	3, 103	2,268		19,870	16, 760	10,800					
Total Northern Hemisphere countries marked *.	11, 163	8, 653	6,878		75, 734	44, 521	30, 562		1, 459, 954	621, 223	430, 585	
		Ar	Area.					Prod	Production.		•	
Country	A					Seed.	.d.			Fiber.	r.	
	1905-9 1905-9 1912-13.	1919-20	1920-21	1621-29 1	Average, 1305-9 to 1912-13.	1619-20	1920-21	1921-22	Average, 1908-9 to 1912-13.	1919-20	1920-21	1021-22 1
Southern Hemisphere.	1.309 acres.3	1,000 acres.	1,00 ccres.	1,000 acres.	1	1.690 buskels	ĝ	1,000 bushels.	1,000 pounds	1,000 pounds.	1,000 pownde.	1,696 pounde. 210
guay 4 entina 4 entina 4 r Zealand 2	3. S. S. L. L. S. L.	8, 28, 3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	3,454 10	***************************************	31,959		30, 170	32, 272 32, 272	153	119		
Total Southern Hemisphere countries marked	3,839	3,610	3, 575		32,752	13,062	51, 705					
Total world countries marked 2	15,152	12, 255	9.953		105,316	87 583	82,570		1, 159, 254	621,223	430,585	
Total world as far as reported	15,627	12, 569	10,305		110,592	87,961	53, 283		1,619,424	639,024	465, 269	

1 Figures for 1922 and 1921–22 compiled from reports received up to Nov 1, 1922
Indicates countries reporting for all periods except 1922 either as listed or as part of some other country.
3 Pre-war boundaries.
4 Four-year average.
5 Pre-war Poland included in Russia, Austria, and Germany,
6 Pre-war Poland included in Russia, Austria, and Germany
7 One year.
7 One year.
8 Pre-triving incertain Probably includes Asiatic Russia.
9 These figures are rough estimates for the principal regions of European Russia where flex is grown for fiber.
10 Departments of Algiers and Oran only.
11 Less than 50.
12 Department of Oran culty.
13 Including flax tow.
4 Including flax seed grown with other grops.

Table 119.—Flax (seed and fiber): World production as far as reported, 1896-1921.

	Prod	uction.		Produ	iction.
Year.	Seed.	Fiber	Year.	Seed	Fiber
1896. 1897. 1898. 1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908.	Bushcls. 82, 684, 000 57, 596, 000 77, 938, 000 66, 348, 000 62, 432, 000 72, 314, 000 83, 891, 000 107, 713, 000 100, 458, 000 102, 960, 000 100, 850, 000	Pounds. 1, 71 1, 205, 000 1, 498, 054, 000 1, 798, 693, 000 1, 315, 931, 000 1, 315, 931, 000 1, 564, 840, 000 1, 564, 840, 000 1, 567, 202, 000 1, 517, 922, 000 1, 597, 391, 000 1, 597, 391, 000 1, 907, 591, 000	1909 1910 1911 1911 1912 1918 1914 1915 1916 1917 1918 1919 1920 1921	130, 291, 000 132, 477, 000 91, 559, 000 103, 287, 000 1 82, 151, 000 1 41, 063, 000 1 61, 821, 000	Pounds. 1, 384, 521, 000 913, 112, 000 1, 011, 350, 000 1, 129, 967, 000 1, 384, 757, 000 1, 014, 74, 000 975, 685, 000 175, 239, 000 98, 982, 000 98, 982, 000 436, 320, 000 436, 320, 000 436, 320, 000 465, 249, 000

 $^{^1}$ Russia not included. In 1915 Russia produced about 18 per cent of the reported world production of flax seed and 84 per cent of the fiber.

Table 120.—Flaxseed: Acreage, production, value, exports, etc., in the United States, 1849-1922.

[See headnote of Table 4.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm price per bushel Dec 1.	Farm value Dec. 1.	Domestic exports, fiscal year beginning July 1.	Imports, fiscal year beginning July 1.
1849 1859 1869 1879 1889			Bushels. 562,000 567,000 1,730,000 7,171,000 10,250,000 19,979,000		Dollars.	35	Bushels. 667,369 13,000,000 15,000,000 1,464,195 2,391,175 67,379
1902 1903 1904 1905 1906	3, 233, 000	7.8 8.4 10.3 11.2 10.2	20, 285, 000 27, 301, 000 23, 401, 000 28, 478, 000 25, 576, 000	105. 2 81. 7 99. 3 84. 4 101. 3	30, 815, 000 22, 292, 000 23, 229, 000 21, 049, 000 25, 899, 000	4, 128, 130 758, 379 1, 338 5, 988, 519 6, 336, 310	129, 089 213, 270 296, 184 52, 240 90, 356
1907. 1908. 1909. 1910.2.	2, 864, 000 2, 679, 000 2, 083, 000 2, 467, 000 2, 757, 000	9. 0 9. 6 9. 5 5. 2 7. 0	25, 851, 000 25, 805, 000 19, 699, 000 12, 718, 000 19, 370, 000	95, 6 118, 4 152, 8 231, 7 182, 1	24,713,000 30,577,000 30,093,000 29,172,000 35,272,000	4, 277, 313 882, 899 65, 193 976 4, 323	57, 419 593, 668 5, 002, 496 10, 499, 227 6, 841, 806
1912	1,645,000	9. 8 7. 8 8. 4 10. 1 9. 7	28, 073, 000 17, 853, 000 13, 749, 000 14, 030, 000 14, 296, 000	114.7 119.9 126.0 174.0 248.6	32, 202, 000 21, 399, 000 17, 318, 000 21, 410, 000 35, 541, 000	16, 894 305, 546 4, 115 2, 614 1, 017	5, 294, 296 8, 653, 235 10, 666, 215 14, 679, 233 12, 393, 988
1917 1918 1919 1920 2 1921 1921	1, 984, 000 1, 910, 000 1, 503, 000 1, 757, 000 1, 108, 000 1, 308, 000	4,6 7.0 4.8 6.1 7.2 9.4	9, 164, 000 13, 369, 000 7, 256, 000 10, 774, 000 8, 029, 000 12, 238, 000	296.6 340.1 438.3 176.7 145.1 211.4	27,182,000 45,470,000 31,802,000 19,039,000 11,648,000 25,869,000	21,481 15,574 24,044 1,481 2,267	13, 368, 529 8, 428, 886 23, 391, 934 16, 170, 415 13, 632, 073

¹ Approximate.

² Acreage adjusted to census basis.

⁸ Preliminary estimate.

Table 121.—Flaxseed: Acreage, production, and total farm value, by States, 1921-22.

State.	Thousand	s of acres		on (thou- bushels).	Total va Dec. (thousa dollars	1 price
	1921	1922 1	1921	1922 1	1921	1922 1
Wisconsin Minnesota Iowa Noi th Dakota South Dakota	314 8	377 8 575 193	63 2,983 70 2,795 1,404	52 3,770 80 5,462 1,834	94 4,504 107 3,997 1,952	94 8,219 148 11,689 3,686
Nebraska. Kansus. Montana Wyomung.	20	$\begin{array}{c} 3 \\ 20 \\ 127 \\ 1 \end{array}$	24 134 550 6	24 120 889 7	36 181 770 7	46 223 1,751 13
United States	1,108	1,308	8,029	12,238	11,648	25, 869

¹ Preliminary, estimate.

Table 122.—Flarseed: Condition of crop, United States, on 1st of months named, 1903–1922.

Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug	Sept	Oct.	Year.	July.	Aug.	Sept	Oct.
1903 1904 1905 1906 1907 1908	P. ct 86 2 86.6 92 7 93.2 91 2 92.5 95 1	P. ct. 80.3 78.9 96 7 92.2 91.9 86.1 92.7	P. ct 80. 5 85. 8 94 2 89 0 85. 4 82. 5 88 9	P ct. 74.0 87.0 91.5 87.4 78 0 81 2 84.9	1910 1911 1912 1913 1914 1915 1916	80 9 88 9 82 0 90 5 §8 5	51.7	P. ct 48 3 68 4 86 3 71.9 72.9 87 6 84.8		1917 1918 1919 1920 1921 1922	P. ct. 84. 0 79 8 73 5 89 1 82 7 87 6	P ct 60 6 70 6 52 7 80 1 70 0 84 7	P. ct 50. 2 72. 6 50 5 63 8 62 3 82 7	P ct 51.3 70 8 52.6 62 8 66.8 82.6

Table 123.—Flaxseed: Forecasts of production, monthly, with preliminary and final estimates.

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
1912 1913 1914 1915 1916 1917 1918 1919 1919	1,000 bush. 28,000 21,000 17,665 16,399 14,467 16,964 15,792 13,232 14,398 9,671	1,000 bush. 28,000 20,000 16,820 17,924 14,118 12,788 14,834 10,239 14,260 8,911	1,000 bush. 29,000 20,000 15,426 18,171 14,895 10,957 15,905 10,195 11,821 8,252	1,000 bush. 29,000 21,000 16,826 17,655 15,411 11,335 15,600 10,652 11,704 8,878	1,000 bush. 29,775 19,234 15,973 18,446 15,300 9,648 14,646 9,450 10,736 9,360	1,000 bush. 28,073 17,853 13,749 14,030 14,296 9,164 13,369 7,256 10,774 8,029
Average	16,759	15,789	15,462	15,807	15,255	13,659
1922	10,722	11,444	11,729	11,725	12, 101	1 12, 238

¹ Preliminary estimate.

Table 124.—Flaxseed: Yield per acre, price per bushel December 1, and value per acre, by States.

	Yı	eld p	er ac	ere (l	oush	els).			F	arm 1	nice	per bı	ashel	(cents	s).	e e e e e e e e e e e e e e e e e e e	taining the magnetic procession.	per	lue acre lars).
State.	5-year aver- age, 1918-1922	1918	1919	1920	1921	1922	10-year aver- age, 1913-1922	1913	1914	1915	1916	1917	1918	1919	1920	1921	1022	5-year a v e r - age, 1917-1921.	1022
Wis Minn Iowa N.Dak. S.Dak.	9.5 11.5 6.7	10. 4 11. 0 7. 8	8.0 16 0 4.6	12.0	9.5 8.7 6.5	10.0 10.0 9.5	230 214 230	123 123	128 120 128	170 150 178	240 215	295 275 300	320 345	415 420 441	183 180 178	151 153 143	218 185 214	26, 16 33, 51 15, 53	23. 40 21. 80 18. 50 20 33 19. 10
Nebr Kans Mont Wyo	7.9 6.2 3.8 6.8	5.0 3.0	63	6.9 2.6	67	6.0	212 224		125	145	234 248	290 295	330 338	380 410	180 175	135 110	186 197	16.41 7.25	15. 20 11. 16 13. 79 13. 30
U.S.	6.9	7.0	18	6.1	7 2	9. 4	227. 7	119.9	126.0	174.0	24%.6	296. 6	340. 1	438.3	176.7	145. 1	211.4	16, 00	19.78

¹ Based upon farm price Dec. 1.

Table 125.—Flaxseed: Farm price, cents per bushel on 1st of each month, 1908-1922.

Year.	January	February.	March.	April.	May.	June.	July	Angust.	september	October.	November.	December.	Average.1
1908_ 1909_ 1910_ 1911_ 1912_	99.3 123.2 171.2 221.1 187.1	129. 8 192. 9 233. 9	240.7	145 6 193. 9	148.7 209.5 241.9	153.4 195.5 225.0	153. 2 183. 5	137.0 209.7 199.2	123. 1 220 0 203. 6	122.8 234.3 205.0	139.8 229.4 210.6	152.9 231.7	138.5 217 9 207.8
1913	124.2	127.8	157.9 202.5	132.8 167.7 202.1	134.7 169.6 191.8	136, 8 169, 5 176, 5	136, 0 152 5	150. 7 114. 6 178. 1	139.3 143.5 190.2	127.4 118.1 109.2	118, 7 162, 9 234, 7	126. 0 174 0 248. 6	117 7 125.6 159.5 218.4 288.7
1918. 1919. 1920. 1921.	327. 7 433. 6	310.1 456.5	327. 4 472. 7 150. 4	348.7 455.7 142.6	361.4 448.2 125.7	389.3 421.1 145.7	444.1 359.6 145.8	303.7 162.1	517. 5 290. 3 161. 8	438, 2 279, 7 162, 9	382, 3 240, 1 145, 0	138, 3 176, 7 145, 1	150.6
Average, 1913–1922.	218.9	228.8	238, 2	242.8	245.0	245. 4	236. 5	2 49. 2	211.8	235. 6	224. 3	227. 7	220, 1

¹ Weighted average.

FLAX—Continued.

Table 126.—Flaxseed: Monthly marketings by farmers, 1917-1922.

	Estir	nated:	amoun	t sold :	month	ly by f	armers	of Un	ited St	ates (n	ullions	of bus	hels).			
Year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	Sea- son.			
1917–18 1918–19 1919–20 1920–21 1921–22	0.1 .2 .3 .2 .6	0.3 .4 .6 .5 1.0	1.6 1.8 1.4 2.4 1.8	2.1 2.7 1.6 2.9 2.2	1.3 1.9 .8 1.3 1.0	0.6 1.4 .5 .6	0.3 .6 .3 .5	0.3 .6 .4 .3	0 4 .7 .2 .3	0.1 .5 .2 .2 .2	0.1 .6 .2 .3	0.2 1.0 .5 .5	7.4 12.4 7.0 10.0 8.7			
Average	.3	.6	1.8	2.3	1.3	.7	.4	.4	.4	.2	.3	.5	9.2			
		Per cent of years' sales.														
1917–18 1918–19 1919–20 1920–21 1921–22	1.8 1.8 3.6 2.1 6.4	3.6 2.9 8.0 4.7 10.9	21.5 14.8 20.6 23.6 20.7	28. 1 21 5 22 2 28. 6 25. 7	17.6 15.0 11.1 13.0 12.0	7.6 10.9 7.4 6.2 6.9	1.7 5.2 5.0 5.0 4.3	4.0 4.4 6.3 3.3 2.8	4.8 5.8 3.1 3.1 3.0	1.8 4.3 3.1 2.1 2.4	1.6 5.0 2.6 3.4 2.1	2.9 8.4 7.0 4.9 2.8	100. 0 100. 0 100. 0 100. 0 100. 0			
Average	3.2	6, 0	20.2	25, 2	13.8	7.8	4 8	4.2	4 0	2.7	2.9	5. 2	100.0			

Table 127.—Flaxseed: Extent and causes of yearly crop losses, 1910-1921.

Year.	Deficient moisture.	Excessive moisture	Floods.	Frost and freeze.	Haıl.	Hot winds.	Storms.	Total cli- matic.	Plant dis- ease.	Insect pests.	Animal pests.	Defective seed.	Total.
1910	P. ct. 49. 4 16. 4 5. 1 24. 3	P.ct. (1) 1.1 2.9 .7	P.ct.	P. ct 2. 5 8. 4 5. 9 1. 0	P.cl. 0.9 .9 2.8 1 7	P.cf. 6.2 2.8 1.1 2.2	P. ct 0.1 .1 .8 .2	P.ct. 59.3 30.5 19.0 30.6	P. ct. 1.3 2.2 3.7 1.6	P.ct. 1.7 1.7 1.7 .4 .2	P. ct. (1) (1) (1) 0. 4	P. ct. 0.1 .2 1.4 .4	P.ct. 63.1 36.3 26.6 34.5
1914 1915 1916 1917	11.4 2.1 3.3 51.3	1.7 2.0 2.3 .3	.2 .3 .3 (1)	2.0 8.5 1.4 2.9	1.9 2.1 1.7 1.2	6.6 .4 2.8 2.9	.3 .2 .3 (1)	21. 1 16. 1 12. 1 59. 3	2.2 2.6 3.9 1.2	.5 .1 .1 1,2	(1) (1) (1)	(1) 11 11	29. 1 20. 0 17. 2 62. 3
1918 1919 1920 1921	26. 2 38. 0 23. 2 25. 2	.7 1.2 .9	.1 .3 .2	3.3 .5 .6	2.3 2.0 1.7 1.9	2.5 4.1 4.2 6.6	(1) -2 -1	34.8 45.5 31.7 35.3	1.0 3.7 4.5 4.3	2.6 10.6 3.7 3.1	(1) .1 0 0	(i) (i) :1	39.3 60.2 41.4 43.5
Average	23. 0	1.1	.1	3.1	1.8	3.5	.2	33. 2	2.7	2.1	.1	•.2	39. 4

¹ Less than 0.05 per cent.

Table 128.—Flaxseed. Monthly and yearly average closing price per bushel, Minneapolis, 1910-11 to 1922-23.

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mai.	Apr	May.	June.	July.	Aug.	Average.
1910–11 1911–12 1912–13 1913–14	\$2 66 2.47 1.76 1.45	\$2.62 2.35 1.60 1.38	\$2.61 2.04 1.35 1.35	\$2 42 2.06 1.25 1.44	\$2 60 2.15 1.29 1.49	\$2.68 2 06 1.34 1.53	\$2.60 2.06 1.26 1.58	\$2.56 2.15 1.29 1.51	\$2, 47 2, 23 1, 30 1, 56	\$2.24 2.25 1.31 1.59	\$2, 10 1, 97 1, 38 1, 68	\$2.34 1.86 1.47 1.64	\$2, 49 2, 14 1, 38 1, 52
Av., 1910-11 to 1913-14	2.08	1 99	1.84	1.79	1.88	1.90	1.88	1.88	1.89	1.85	1.78	1.83	1.88
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	1.51 1.70 2.11 3.38 4.09 4.92 3.23	1.33 1.86 2.54 3.16 3.59 4.32 2.83	1. 45 1. 99 2. 78 3. 29 3. 77 4. 83 2. 27	1.54 2.07 2.84 3.40 3.54 4.99 2.06	1 83 2, 31 2, 89 3, 60 3, 41 5, 12 1, 96	1. 86 2. 32 2. 81 3. 74 3. 45 5. 09 1. 82	1.91 2.27 2.90 4.08 3.75 5 02 1.78	1.93 2.13 3.18 4.09 3.88 4.68 1.58	1.95 1.96 3 33 3.93 4 12 4.53 1.84	1.76 1.80 3.11 3.86 4.86 3.92 1.86	1.67 1.96 3 01 4.10 5.91 3.48 1.89	1.67 2 15 3 46 4 39 5.87 3 28 2.01	1.70 2.04 2.91 3.78 4.19 1.52 2.09
Av., 1914–15 to 1920–21	2.99	2, 80	2.91	2.92	3.02	3, 01	3.10	3.07	3.09	3.02	3, 19	3 26	3. 03
1921–22 1922–23	2.03 2.28	1. 81 2. 38	1.81 2.48	1.89 2.62	2.66	2.46	2, 57	2.67	2.79	2. 52	2, 59	2, 29	2, 31

¹ From Annual Reports of Minneapolis Chamber of Commerce and the Daily Market Record.

Table 129.—Linseed oil: Monthly and yearly average price per gallon at New York, 1910-11 to 1922-23.

						-							
Ciop year.	Sept.	Oct.	Nov.	Dec.	Jan	Feb.	Mai.	Apr.	May.	June	July.	Aug.	Aver- age.
1910-11 1911-12 1912-13 1913-14	\$0.90 .87 .66 .50	\$0.90 .88 .62 .47	\$0.95 .84 .56 .46	\$0.95 .71 .43 .48	\$0.95 .74 .42 .48	\$0.96 .71 .46 .48	\$0.96 .70 .45 .50	\$0.91 .73 .44 .51	\$0.91 .73 .46 .50	\$0. 89 . 76 . 45 . 50	\$0.87 .77 .47 .52	\$0.80 .66 .49 .59	\$0.91 .76 .49 .50
Av., 1910-11 to 1913-14	. 73	.72	.70	. 64	.65	. 65	.65	.65	.65	, 65	.66	. 64	. 67
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	. 57 . 52 . 70 1. 25 1. 90 2. 04 1. 22	. 49 . 55 . 82 1. 18 1. 83 1. 79 1. 20	. 44 . 60 . 90 1. 15 1. 55 1. 75 . 98	. 45 . 61 . 92 1. 21 1. 58 1. 82 . 82	. 48 . 66 . 94 1, 29 1, 50 1, 77 . 78	. 56 . 72 . 95 1. 29 1. 45 1. 77 . 66	.55 .77 .94 1.41 1.48 1.80	. 58 . 76 1. 07 1. 57 1. 54 1. 83 . 61	.62 .75 1.21 1.57 1.61 1.69 .70	.63 .67 1.21 1.57 1.81 1.65 .75	.54 .63 1,12 1,64 2,10 1,52 .75	.50 .71 1.18 1.88 2.22 1.41 .74	. 53 . 66 1. 00 1. 42 1. 71 1. 74 . 82
Av., 1914-15 to 1920-21	1.17	1, 12	1.05	1.06	1.06	1.06	1.09	1.14	1.16	1, 18	1, 19	1, 23	1, 13
1921–22 1922–23	.74	.68 .89	.67 .88	.67 .89	.72	. 82	. 82	.84	.90	.84	.89	.87	.79

¹ Figures for 1910-1915 from Monthly Labor Review, 1916-1918 from War Industries Board Price Bulletin; 1919-1922 from Oil, Paint, and Drug Reporter.

Table 130.—Flaxseed: Monthly and yearly receipts at Minneapolis, 1910-11 to 1922-23.1

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan	Feb.	Mar	Apı	May.	June.	July.	Aug.	Total.
1910–11 1911–12 1912–13 1913–14	1,000 bush. 854 563 700 756	1,000 bush. 1,530 1,212 1,657 1,686	1,000 bush. 1,292 1,570 1,520 1,505	1,000 bush. 535 1,716 2,245 1,131	1,000 bush. 338 531 1,450 711	1,000 bush. 300 459 1,246 478	1,000 bush. 232 397 1,057 592	1,000 bush. 112 468 742 270	1,000 bush 118 571 518 139	1,000 bush. 122 440 514 165	1,000 bush. 133 487 432 233	1,000 bush. 191 160 281 117	1,000 bush. 5,757 8,574 12,362 7,783
Av., 1910-11 to 1913-14	718	1, 521	1,472	1,407	758	621	570	398	336	310	321	187	8, 619
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	901 347 316 265 536 753 580	1,890 1,038 2,380 980 915 570 1,444	1,247 1,506 1,694 1,112 857 568 861	1,016 1,113 1,045 614 788 492 699	599 319 544 533 558 344 298	443 399 442 553 473 368 269	384 810 441 527 829 409 364	142 486 384 283 439 159 434	77 440 263 349 436 295 578	146 363 565 648 942 522 572	239 441 325 208 642 554 338	115 199 92 94 196 297 289	7, 199 7, 461 8, 491 6, 166 7, 611 5, 331 6, 726
Av , 1914-15 to 1920-21	528	1,317	1,121	824	457	421	538	332	348	537	392	183	6,998
1921–22 1922–23	500 909	1, 144 1, 121	375 580	351 577	308	200	254	196	300	220	157	288	4, 296

¹ Compiled from Minneapolis Chamber of Commerce Reports and Daily Market Record.

Table 131.—Flavsced: International trade, calendar years 1911-1921.

Country	Average,	1911-1913	19	919	19	920	19	921
Country.	Imports.	Exports.	Imports.	Exports.	Imports	Exports	Imports	Exports.
PRINCIPAL IMPORTING COUNTRIES. Austria-Hungary. Belgium. Finland. France. Germany. Italy. Japan. Norway. Notherlands. Sweden. United Kingdom. United States. PRINCIPAL EXPORTING COUNTRIES.	1,000 bushels. 103 1,913 9,313 110 6,304 15,312 1,698 3 27 445 8,741 911 15,908 7,298	1,000 bushels. (1) 41 5,965 (1) 60 210 1 3 27 2,488 7	1,000 bushels. 369 1,009 85 4,001 519 317 351 3,808 695 21,977 14,036	1,000 bushels. 38 22 (1) 344 90 (1)	1,000 bushels. 552 2 24 1,586 105 1,284 2,089 871 114 332 3,826 1,085 15,520 24,641	1,000 bushels. (1) (1) (11) (11) (17) (18) (17) (19) (19)	7,000 bushels. 6,273 139 3,992 749 162 426 10,788 1,061 18,528 12,326	1,000 bushels 2,516 12 (1) 103 210
Argentina British India China. Canada. Morocco (French). Russia. Rumania Tunis. Uruguay. Other countries.	89 89 80 19 (1)	25, 562 14, 409 648 10, 645 338 5, 739 120 39 994 139	243 27 27 27 6 3	33,677 13,341 555 1,173 38 541 89	280 3 617 1	41,352 7,839 242 1,519 706 36 784 56	283 270 (¹)	53, 519 4, 264 184 3, 728 79 887 25
Total	69, 171	67, 533	48,240	49,925	54,009	52,994	56,108	65,557

¹ Less than 500.

² Austria only.

One year only.

⁴ Two-year average.

Table 132.—Flaxseed: United States imports by countries, 1911-1921.

Towns and all forms			Year c	ndıng J	une 30-	•			Calenda	ır year-	-
Imported from—	1911	1912	1913	1914	1915	1916	1917	1918	1919	1929	1921
Argentina Canada Chma England British India	1,000 bush 5,021 2,251 693 2,334	1,000 bush. 1,211 3,511 14 183 1,525	1,000 bush 429 4,732 (2) 2 129	1,000 bush. 8,647	1,000 bush. 3,928 6,630 40	1,000 bush. 11,468 3,095 20 (2)	1,000 bush. 5,009 7,015 119	1,000 bush 9,668 3,240 54 (2)	1,000 bush. 12,354 1,279 7	1,000 bu sh 22,778 1,638 63	1,000 bush. 8,885 3,095 134
Japan Uruguay All other	(2) 200	394	(2) 2		27	13 22	17		131 214	32 23 107	18 194
Total	10, 499	6,842	5, 294	8,653	10,666	14,679	12,394	12,974	14,036	21,641	12,326

¹ Commerce and Navigation, published by the Bureau of Domestic and Foreign Commerce. ² Less than 500 bushels.

Table 133.—Production, imports, exports, and net supply of flarseed in the United States, 1911-1921.

[Including linseed oil expressed as seed equivalent]

Year beginning July 1—	Produc- tion.	Imports of seed.	Imports of Oil.2	Exports of seed (do- mestic and foreign).	Exports of oil (do- mestic and foreign). ²	Net sup- ply
1911 1912 1913 1914 1915 1916 1917 1918 1918 1919 1920	Bushels. 19,370,000 28,073,000 17,7853,000 14,030,000 14,030,000 13,369,000 7,256,000 10,774,000 8,029,000	Bushels. 6, 811, 816 5, 201, 296 8, 653, 235 10, 666, 215 14, 670, 203 12, 303, 988 13, 366, 529 8, 426, 886 23, 391, 934 16, 170, 415 13, 632, 073	Bushels. 294, 902 69, 476 76, 913 214, 116 20, 050 44, 323 20, 331 395, 925 1, 820, 156 798, 634 8, 997, 620	Bushelz. 26, 242 17, 062 305, 546 67, 853 2, 651 1, 017 22, 332 15, 618 48, 980 1, 486 2, 281	Bushels, 99,085 603,579 95,775 484,857 285,048 480,622 476,216 439,173 456,806 221,551 148,578	Bushels. 26, 341, 381 32, 726, 131 26, 181, 827 24, 077, 121 28, 441, 013 26, 252, 672 22, 052, 312 21, 737, 020 31, 962, 304 27, 517, 012 30, 507, 834

¹ Weather, Crops, and Markets.

² Seed equivalent, 21 gallons of oil equal 1 bushel of seed.

RICE.

Table 134.—Rice: Area and production in undermentioned countries, 1909-1922. [Expressed in terms of cleaned rice]

		Are	a.			Produc	tion.	
Country.	Average, 1909-1913.	1920	1921	1922 1	Average, 1909-1913.	1920	1921	1922 1
NORTHERN HEMISPHERE. NORTH AMERICA. United States 2. Mexico. Hawaii. CENTRAL AMERICA, SOUTH AMERICA, AND WEST INDIES.	1,000 acres. 3 749 162 5 9	1,000 acres. 1,336	1,000 acres 911	1,000 acres. 1,009	1,000 pounds. 681,166 * 164,299 * 25,820	1,000 pounds 1,446,278	1,000 pounds. 1,014,306 4 15,869	1,000 pounds. 1,087,750
Guatemala. Honduras. Porto Rico. British Guiana ² . Dutch Guiana. EUROPE.	6 16 38	54	56	11	2,680 6 8,100 6 4,298 69,078 2,754	2, 235 61, 815	2, 648 67, 072	
France. Italy ² . Spain ² Bulgaria ² Russia (Northern Caucasia)	371 3361 395 377 792	277 120 6	(8) 286 113 7	296 8	7 2,017 646,470 297,468 7 7,767	614, 022 393, 643 6, 806	641, 375 355, 969 10, 104	639, 617 5, 543
ASIA India. Butish 2 Native States Ceylon Federated Malay	⁸ 70, 591 ⁹ 2, 498 ⁸ 706 ⁹ 125	78, 969 3, ±90	81, 234 600 200	73, 466 800	72, 949, 786 2, 634, 720 343, 614 9 80, 398	62, 077, 120 123, 818	73, 906, 560 382, 722	497, 531
States. Japanese Empire Japan 2. Chosen 2. Formosa 2. Indo China 2. Philippine Islands 2. Russia, Transcaucasia, and Turkes.	3 7, 357 8 2, 416 8 1, 198 9 8, 550 4 2, 288	7,661 3,843 1,256 11,762 3,669	7,679 3,753 1,229 11,985 4,135	3,336 4,083	14,008,517 2,455,522 1,186,174 97,332,336 1,123,805	19, 849, 201 4, 638, 620 1, 546, 663 6, 283, 361 2, 243, 588	17, 335, 434 4, 500, 200 1, 559, 760 7, 931, 222 2, 427, 241	19, 678, 52 4, 715, 250 2, 385, 630
Straits Settlements Siam ²	^{3 7} 614 ³ 92 ⁶ 3, 286	6, 125	6,046		7 378, 401 8 123, 204 10 6, 510, 985	3,031,140	3, 261, 542	
Egypt (lower)2 Madagascar Nyassaland	3 241	165	324		552, 833 9 953, 000 2, 212	282,667	471,858	
Country.	A verage, 1908-0 to 1912-13.	1919-20	1920-21	1921-221	A verage, 1908-9 to 1912-13.	1919–20	1920–21	1921-22 1
SOUTHERN HEMISPHERE. SOUTH AMERICA. Argentina. Brazil (Sao Paulo). Peru.	1,900 acres 20 228 138	1,000 acres. 17	1,000 acres. 30	1,000 acres, 30	1,000 pounds. 24,057 99,514 100,976	1,000 pounds. 369,375	1,000 pounds.	1,000 pounds.
OCEANIA. Australia. Fiji. Java and Madura 2.	(%) 12 8 6, 021	(*) 15 8,860	10 8,060	7,590	6 75 5, 916 7, 349, 417	16 7, 348, 288	7, 969 6, 480, 197	
Total countries marked 2 Total all coun-	105, 198	124, 103	125, 818		115, 171, 324	109, 823, 212	119, 962, 840	
tries report-	100, 821	127, 828	126, 666		120, 128, 428	110, 318, 656	120, 372, 089	

¹ Figures for 1922 and 1921–22 compiled from reports received up to Nov. 15, 1922.
² Indicates countries reporting for all periods except

⁶ Census. 6 One year. 7 Old boundaries

Table 135.—Rice (cleaned): World production so far as reported, 1900-1921.

Year.	Production.	Year.	Production.	Year.	Production.
1900 1901 1902 1903 1904 1905 1906 1907	101, 600, 000, 000 101, 800, 000, 000 110, 700, 000, 000 102, 400, 000, 000 105, 800, 000, 000	1908. 1909. 1910. 1911. 1912. 1913. 1914. 1915.	126, 100, 000, 000 102, 100, 000, 000 97, 300, 000, 000	1916	Pounds 112, 300, 000, 000 122, 000, 000, 000 97, 100, 000, 000 117, 200, 000, 000 110, 318, 656, 000 120, 372, 089, 000

Table 136 .- Rice: Acreage, production, value, exports, etc., in the United States, 1904-1922.

[See headnote of Table 4.]

Year.	Acreage.	Average yield per acre.	Production.	Average farm, price per bushel Dec. 1.	Farm value Dec. 1.	Domestic exports, year beginning July 1.1	Net im- ports, year beginning July 1.1
1904 1905 1906 1907 1908	482, 000 575, 000	Bushels 31. 9 28. 2 31. 1 29. 9 33. 4	Bushels. 21, 095, 000 13, 607, 000 17, 855, 000 18, 738, 000 21, 890, 000	Cents. 65. 8 95. 2 90. 3 85. 8 81. 2	Dollars. 13, 892, 000 12, 956, 000 16, 121, 000 16, 081, 000 17, 771, 000	Bushels. 5, 964, 814 3, 612, 289 3, 790, 080 3, 033, 788 3, 406, 070	Bushels 3, 501, 337 5, 593, 750 7, 264, 859 7, 333, 910 7, 760, 164
1909 1910 ² 1911 1912 1913	723, 000	33 8 33 9 32.9 34.7 31.1	20, 607, 000 24, 510, 000 22, 934, 000 25, 054, 000 25, 744, 000	79 5 67 8 79.7 93.5 85.8	16, 392, 000 16, 624, 000 18, 274, 000 23, 423, 000 22, 090, 000	4, 487, 287 5, 131, 355 5, 824, 598 5, 672, 996 5, 871, 289	7,820,643 7,292,960 6,467,505 7,539,206 9,806,684
1914	694,000 803,000 869,000 981,000 1,119,000	34. 1 36. 1 47. 0 35. 4 34 5	23, 649, 000 28, 947, 000 40, 861, 000 34, 739, 000 38, 606, 000	92 4 90 6 88, 9 189, 6 191, 8	21, 849, 000 26, 212, 000 36, 311, 000 65, 879, 000 74, 042, 000	7, 334, 389 9, 506, 099 12, 315, 186 11, 885, 265 12, 892, 196	7,848,181 6,931,061 6,180,934 13,095,243 5,309,014
1919 1920 ² 1921 1922 ⁴	1,063,000 1,336,000 921,000 1,055,000	39. 5 39. 0 40. 8 39. 8	41, 985, 000 52, 066, 000 37, 612, 000 41, 965, 000	266. 6 119. 1 95. 2 93. 4	111, 913, 000 62, 036, 000 35, 802, 000 39, 178, 000	22, 890, 774 22, 119, 930 26, 634, 617	3, 001, 362 1, 267, 391 725, 366

¹ Domestic exports here include also shipments from the United States to Porto Rico and Hawaii; net imports are total imports minus reexports. Bushels are computed from pounds as reported in original by assuming 1 bushel of rough rice to yield 27% pounds of cleaned rice.

² Acreage adjusted to census basis.

³ Preliminary estimate.

Table 137.—Rice: Acreage, production, and furm value, by States, 1931 and 1933.

State.	Thous: acr	ands of		on (thou- bushels).	Dec.	thie, basis 1 price ands of dol-
	1921	1922	1921	1922	1921	1922
South Carolina.	7	8	175	208	170	239
Georgia.	3	3	78	72	72	84
Florida.	4	3	88	75	85	98
Mississippi	1	1	20	19	24	21
Louisiana	480	555	17, 280	19, 980	14, 861	17,782
Texas	166	191	5, 993	5, 959	6, 053	5,363
Arkansas.	125	154	6, 688	7, 392	6, 153	6,505
California	135	140	7, 290	8, 260	8, 384	9,086

T'ABLE 138.—Rice: Condition of crop, United States, on 1st of months named, 1905-1922.

Year.	July.	August.	September.	When harvested.	Year.	July.	August	September	When harvested	Year.	July.	August.	September	When harvested
1905 1906 1907 1908 1909	\$8 0 \$2 9 \$8.7 92 9 90 7 86.3	92. 9 83 1 88 6 94 1 84 5 87. 6	92 2 86 8 87 0 93 5 84.7 88.8	89. 3 87 2 88 7 87 7 81 2 88 1	1911 1912 1913 1914 1915	87 7 86 3 88.4 86 5 90 5 92 7	88 3 86 3 88 7 87 6 90 0 92 2	87 2 88.8 88.0 88 9 82 3 91 2	85 4 89. 2 80 3 88 0 80 9 91. 5	1917 1918 1919 1920 1921	85. 1 91. 1 89. 5 90. 0 88 0 88. 6	85. 0 85. 7 90. 4 88. 7 86. 5 86. 9	78. 4 83 7 91. 9 88 3 83 8 85. 5	79. 7 85. 4 91 3 88 1 84 6 85. 3

Table 139 —Rice: Forecasts of production, monthly, with preliminary and final estimates.

Year.	July.	August.	Septem- ber.	October.	Final estimate
1912 1918 1914 1915 1916 1917 1918 1919 1920	23, 619 29, 921 34, 152 31, 372 43, 373 42, 487	1,000 bushels 23,000 27,000 23,925 29,762 34,193 34,506 41,593 43,427 52,000 33,480	1,000 bushcls. 23,000 27,000 24,437 26,261 32,823 32,237 40,879 44,383 52,152 32,661	1,000 bushels 24,000 25,000 24,453 26,251 33,160 33,256 41,918 44,261 52,298 33,020	1,000 bushtls 25,054 25,744 23,649 28,947 40,861 34,739 38,606 41,985 52,066 37,612
Average	34, 361	34, 295	33, 583	33, 762	31,926
1922	39, 085	38, 749	38,810	39, 159	1 39, 178

Preliminary.

Table 140.—Rice: Yield per acre, price per bushel December 1, and value per acre, by States.

	Yie	eld p	erac	ere (1	oush	els).			Fa	rm j	nice	per b	oushel	(cent	ls)			Valu a (dol	ere^	
State.	5-year a v e r - age, 1918-1922.	1918	1919	1920	1921	1922	10-year aver- age, 1913-1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year a v e r - age, 1917-1921.	1099	
fla.	25. 2	26.0	24. ()	26, 0	25, 0 26, 0	21. 1	143	83	92 89 70 85	90 58 75 88	90 87 75	195 195	175	275	290 225 175	97 92 97	115	52. 47 50. 48 43. 20	28.	20
M188	24. 4	23. 0	29, 1	31.0	22, 0 20, 0 36, 0	19. 0	128	70				190	150	190	200 110	118	110	46. 48 56, 20	20.	90
Texas	33. 1 46. 9	32. 0 37. 9	32 0 46, 0	34. 0 19. 0	36. 1	31 2 48.0	141 128	86 90	92 90	90 89 95 90	90 86 96 78	200 190 175	197 180	240 240	125 131 121		90 88	58, 32 73, 99 105,57	12.	24
U.S	38. 7	34. 5	39. 5	39. 0	40. 8	39 S	132.0	85.8	92. 4	90.6	88. 9	189. 6	191.8	266. 6	119.1	95. 2	93.4	64. 79	37.	14

¹ Based upon farm price Dec. 1.

Table 141.—Rice: Extent and causes of yearly crop losses, 1909-1921.

Year.	Deficient moisture.	Excessive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds.	Storms.	Total chr-	Plant dis- ease.	Insect pests.	Animal pests.	Defective seed.	Total.
1909 1910 1911 1912 1013	P. ct. 4. 6 7. 2 6 5 3. 1 3. 9	P.ct. 0 1 1.7 3.2 1.1 14.3	P. ct.	P. ct.	P. ct.	P. ct. 1.1 .1 .7 .6 (1)	P. ct 6. 6 1. 0	P. cf. 12, 4 10, 1 10, 6 11, 6 21, 1	P ct. 2.7 3.1 .7 2.5 .1	P cf. 0.9 .4 .6 2.0 .7	P. ct 0 2 1. 2 .5 .5	P. ct. 0 1 .3 .1 .6	P. ct. 17 0 17 3 11 5 19 6 28 5
1914 1015 1916 1917	5.3 7 0 4.8 17.3	2.3 .6 .2 .7	.1	.3 .4 1.5	(1) 0.1	.6 .4 .3 .1	8.1 .2 .1	10.1 16.7 6 2 20.0	.1 .4 1.1 .5	1.3 .2 .3 .2	(¹) 5	;3 (¹) ;2 ;1	17 5 19.4 9.5 25.4
1918 1919 1920 1921	7.2 1 0 .5 4.5	7 2 12 8 8.0 .2	$\begin{bmatrix} 2 & 5 \\ 1 & 1 \\ & \cdot 4 \\ & 0 \end{bmatrix}$.2 .3 1.2 .3	.2	.1	1 5 2.6	18 8 18, 1 10 3 5, 3	.3 3.2 1.6	1.0 .5 1.6 2.7	(1) .7	1. 1.	21 7 20 0 16 7 11.8
Average	5. 6	4.0	1.3	.3	0	.4	1.6	13. 1	1.3	1.0	.3	.2	18.4

¹ Less than 0 05 per cent.

Table 142.—Rice: Wholesale price per pound, 1900-1901 to 1922-23.

NEW YORK (DOMESTIC, FANCY HEAD).

				(,			/-			*************	
Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	lune.	July.	Aver- age.
1900-1901 1901-2 1902-3 1903-4	Cents 1.8 5 0 1.9 5.2	Cents. 4. 8 5. 0 4. 9 5. 0	Cents. 4 8 5.0 4.9 4.7	Cents. 4. 9 4. 9 1. 9 4. 4	Cents. 5. 0 4. 8 5. 0 4. 2	Cents. 5. 0 1. 8 1. 9 4. 2	Cents. 4, 9 4, 8 5, 0 1, 0	Cents. 4.9 4.8 5 2 4.0	Cents. 4. 9 4. 8 5. 2 4. 0	Cents. 4. 9 4. 9 5. 2 3. 9	Cents 4.9 5.1 5.2 3.7	Cents. 1, 9 5, 1 5 2 3, 6	Cents. 1. 9 1. 9 5. 0 1. 2
Av. 1900-1901 to 1903-4	5 0	4.9	4.8	4.8	4.8	4.7	4.7	4.7	4.7	17	1.7	1.7	1 8
1904–5 1905–6 1906–7 1907–8 1908–9	3.5 3.8 5.2 5.9 6.4	3. 4 3. 9 5. 2 5. 9 5. 0	3.4 4.1 5.4 5.6 5.4	3. 4 4. 1 5 3 5. 4 5. 1	3. 4 4. 5 5. 1 5. 1 5. 1	3. 1 5. 1 5. 1 5. 1 5. 2	3. 4 5. 1 5. 1 5. 4 5. 6	3 1 5.0 5.1 5.7 5.8	3. 1 1. 9 5. 2 5. 8 5. 8	3.9 5.4 5.8 5.8	3.6 5.1 5.6 6.1 5.8	3.8 5.1 5.9 6.2 5.6	3 5 4.7 5 3 5 7 2.6
Av. 1904-5 to 1908-9	5.0	4.9	4.8	4.7	4, 6	4, 8	4.9	5,0	5, 0	5.1	5, 2	5. 1	5.0
1909-10 1910-11 1911-12 1912-13 1913-14	5. 9 4. 4 3. 9 5. 0 5. 1	5. 2 1. 6 4. 2 4. 9 5. 1	5. l 4. 4 4. 3 4. 9 5. 1	4.1 4.2 4.9 5.1	4. 8 4. 1 4. 2 4. 9 5. 0	5, 0 1, 2 4, 4 4, 9 4, 9	1.8 4.0 4.7 4.9 1.9	1.6 3.9 4.9 4.9	4.1 3.8 4.9 4.9	4. 1 3. 8 5. 1 4. 9 4. 9	1. 1 3. 7 5. 1 1. 9	1.4 0.8 5.1 0.0 4.9	4. 8 1. 1 4. 6 1. 9 5. 0
Av. 1909-10 to 1913- 14	4.9	4.8	4.8	4.6	4.6	4.7	4.7	4.6	4. 5	4.6	4.6	1, 6	4.7
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20	5.3 5.2 5.2 7.9 10.1 14.3 14.0	5.7 4.9 5.2 7.8 10.1 14.1 13.2	5.6 4.9 5.2 8.2 10.2 13.6 11.1	5.6 5.1 5.2 9.0 10.5 13.8 7.4	5.4 5.1 5.4 8.9 10.5 14.2 8.5	5. 2 5. 1 5. 4 8. 9 10. 4 14. 8 7. 5	5.4 5.1 5.4 8.9 10.4 11.8 6.9	5.4 5.1 5.6 9.4 10.4 14.8 6.9	5. 4 5. 1 7. 1 9. 6 10. 4 14. 8 6. 5	5. 4 5. 1 8. 8 9. 9 10. 7 14. 8 6. 1	5. 1 5. 1 8. 6 10. 0 11. 7 14. 8 6. 5	5.4 5.1 8.4 10.1 13.7 14.4 6.5	5.4 5.1 6.3 9.0 10.8 14.4 8.4
Av. 1914–15 to 1920– 21	8.9	8.7	8.4	8,1	8.3	8.2	8.1	8 2	8.4	8.7	8.9	9.1	8, 5
1921-22 1922-23	6. 7 7. 5	7.0 7.5	7.0 7.6	7. 0 7. 4	7.0 7.4	7.0	7.0	7.0	7.0	7.1	7.5	7.5	7.1

Table 142.—Rice: Wholesale price per pound, 1900-1901 to 1922-23—Continued.

NEW ORLEANS (HONDURAS, CLEAN, FANCY).

	NE	w or	LEAN	is (H	ONDU	TRAS,	CLE	AN, F	ANCY).			
Crop year.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mai.	Apr.	May	June.	July.	Aver- age.
1900-1901 1901-2 1902-3 1903-4	Cents. 5. 4 4 1 3. 8 4. 1	Cents. 5 2 4.3 3 8 4.0	Cents 5. 1 1 0 3 7 3. 6	Cents 5. 1 3. 9 3. 8 3. 3	Cents. 5. 1 3 9 3. 8 3. 1	Cents 4. 1 4. 0 3. 9 3. 2	Cents 4 1 4 0 4 0 3.1	Cents 4 4 4.0 4.1 2 9	Cents 4 1 3, 9 4 2 2 7	Cents 4.5 3.9 4.1 2.9	Cents 4 4 3 8 4 2 2.8	Cents. 4 8 4.2 4.5 3 0	Cents. 4 7 4.0 4.0 3.2
Av 1900-1901 to 1903-1	1. 1	4.3	4.1	4.0	4.0	38	3 8	3 8	3 7	3.8	3.8	4.1	4 0
1904–5 1905–6 1906–7 1907–8 1908–9	3. 4 3. 5 4. 2 1. 2 1. 8	3.0 3 7 4.0 4 2 3.9	3 1 3 9 3.9 4 1 3.9	3. 1 3. 9 3. 8 3. 9 3. 8	3 2 3 6 3.8 3.9 3.8	3.1 40 39 4.0 3.6	2. 9 3. 9 3. 9 4. 1 4. 0	2 9 3 8 3 5 4.2 4.1	2 G 4.1 3 G 4 4 4 1	2.9 3 6 3 8 4.4 4.2	3.6 3.9 4.1 4.2 4.0	3 4 3 9 4.3 5.1 4 2	3 1 3 8 3 9 4.2 4.0
Av. 1904-5 to 1908-9	1.0	3 8	3.8	3.7	3.7	3. 7	3.8	3 7	3 8	3.8	4 0	4 2	3.8
1909-10 1910-11 1911-12 1912-13 1913-14	1 1 3 8 3 6 1 1 1.1	3 6 3 6 3.5 4.1 3.8	3 8 3.4 3.3 3.5 3.8	3 7 3.1 3.4 3 8 3 6	3.7 3.2 3.1 1.1 3.7	3.8 2.9 3.8 4.1 3.9	3.8 3.1 3.9 4.0 3.8	3. 4 2 9 4. 0 3. 9 3 7	3. 2 3. 0 3 9 4 0 3. 6	3 6 2.9 4 6 4.1 3 9	3.5 29 4.2 41 3.8	3.7 36 46 44 3.7	3.7 3.2 3.8 4.0 3.8
Av. 1909-10 to 1913-	10	3 7	3.6	3 5	3.6	3.7	3, 7	3 6	3 5	3, 8	3 7	4.0	3.7
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21.	3.6 3.8 61 7.6 10.9 10 6	1 2 3 3 3. 5 6. 4 7. 6 12 2 9. 6	3.6 3.8 3.8 6.7 7.5 11.8 7.9	3.4 3.8 3.9 6.6 7.3 11.9 6.9	3 6 3 8 3 9 6.8 7 5 12.3 6.6	3 9 3.5 3.9 6 8 7.8 12.7 4.6	4 1 3 6 3 9 7 0 7.7 12 8 4.7	4 1 3.9 4.1 7.6 8.0 12 5 5 4	4.0 3 8 5.2 8.2 7 9 12.3 5 3	4 1 4.0 5.9 8.3 7 0 12 2 5 5	1.2 4 2 6.3 8 3 9 2 12.3 5 8	4.2 3.9 6 3 8.1 10.1 12.5 5.6	4.0 3.9 4.5 7.3 7.9 12.2 6.5
Av. 1914-15 to 1920- 21	6 7	6.7	6 1	6 3	6. 1	6. 2	63	6.5	6.7	6.7	7 2	7 3	6.6
1921–22 1922–23	5.7	5. 4 6. 6	5 3 6. 5	5. 1 6. 5	5. 7 6. 5	5.7	3 7	5 9	6 1	6. 1	6.4	6 1	5, 9
				!		.D, C1	<u> </u>	1	<u> </u>	,	1	1	
1900-1901 1901-2 1902-3 1903-1	4.0 1.8 5.4	1.0 5.1 5.5	4. 0 5. 1 5. 5	4. 0 5. 1 4. 9	4. 0 5. 1 4. 5	1 0 1.4 5.2 4.1	4.0 4.5 5.2 4.1	4.0 4.8 5.2 4.0	1.0 1 8 5.1 3.8	4 0 4.8 5.1 3.6	4. 0 4. 8 5. 2 3. 6	4 0 4 8 5.4 3.5	1 0 4.4 5.1 1.4
Av. 1900-1901 to 1903-1	1 1.7	14.9	1 4, 9	1 4.7	1 4.5	1. 1	4.4	4. 5	4.4	4.4	4.4	4.4	4.5
1901–5 1905–6 1906 7 1907–8 1908–9	3. 5 3. 6 1. 5	3.5 3.8 4.5 5.7 5.5	3. 1 3. 9 5. 0 5. 1 5. 2	3. 4 4. 0 5. 1 5. 0 5. 0	3.4 1.2 4.6 5.0 5.0	3. 4 4. 8 5. 1 5. 0 4. 9	3, 4 4, 8 5, 2 5, 2 5, 1	3. 1 1. 8 5. 2 5. 2 5. 1	3. 2 4. 2 5. 2 5. 4 5. 2	3. 2 4. 2 5. 7 5. 6 5. 3	3. 4 4. 5 6. 0 5. 7 5. 5	3.5 4.5 6.2 5.9 5.8	3. 4 4. 3 5. 2 5. 4 5. 3
Av. 1901-51 o 1908-9	1.7	1.6	4.8	1.5	1.4	1.6	1.7	1.7	1.6	4 8	5.0	5. 2	4.7
1909-10 1910-11 1911-12 1912-13 1913-14	5. 2 4. 1 5. 1	5. 4 4. 1 4. 1 4. 9 5. 2	5. 2 4. 2 1. 1 4. 2 4. 9	4.9 3.9 4.1 4.6 4.8	4.9 3.5 4.1 4.9 4.7	4.1 3.8 4.4 4.8 4.9	1. 1 3. 5 4. 7 4. 8 4. 9	3.9 3.2 1.8 4.8 4.8	3.8 3.4 5.0 4.8 4.1	4.0 3.5 5.0 4.8 4.5	3.4		4.5 3.8 4.5 4.8 4.7
Av. 1909 10 to 1913 14	. 5.1	4.7	4.5	4. 5	4.4	4.4	4.5	4.3	4.2	4.4	4.3	4.2	4.5
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	4.0	13.1	5. 0 4. 9 4. 5 7. 8 10. 6 6. 9	4.6 4.9 4.6 8.0	4.8 4.9 4.6 8.0	4. 2 4. 9	4. 6 4. 4 4. 9 9. 1 12. 5 4. 2	4.6 4.4 5.2 9.1 12.8 3.5	4.7 4.2 6.5 9.1 12.5 3.2	4.8 4.0 7.9 9.1 12.0 3.4	4.0 7.6	13. 2 11. 2	4.8 4.5 5.5 27.6 310.0 12.0 5.3
Av. 1914-15 to 1920- 21		47.0	4 6. 6	46.5	46.6	46.7	4 6. 6	4 6. 6	46.7	4 6. 9	i 7. 1	47.4	6.8
1921–22	4.2	4.6 4.5	4.8	4.8	4.4	4. 2	4. 4	4. 5	4. 9	4.8	4.5	4.5	4.6

Table 143.—Rice: Wholesage price per 162 pounds, 1900-1901 to 1922-23. LAKE CHARLES (ROUGH).

Crop year.	Aug	Sept.	Oct.	Nov.	Dec.	Jan	Feb	Mar.	Apı.	Мау	June.	July.	Aver-
1900–1901 1901–2. 1902–3. 1903–4.		\$2 75 2 70 2 80	\$2 75 2.58 2 68	\$2 75 2 60 2.42	\$2 50 2 52 2 25	\$2 48 2 38 2 58 2 25	\$2.48 2.38 2.58 2.12	\$2 58 1 88		\$1 62	\$1 62	\$1 62	1 2.59 2 2 09
Av, 1900-1901 to 1903-4		32 75	32 67	3 2 59	32 12	2 12	2 39					·	
1904-5. 1905-6. 1906-7. 1907-8. 1908-9.	2 12 3.18	1 62 2 62 3 18 2 98 2 80	1 55 2 62 3 05 3 22 2 75	1 55 2 88 2 88 2 88 3 25 2 92	1 50 2 92 2 62 2 95 2 58	1 50 3 05 2 75 3 00 2 75	1 50 3, 05 2 75 3 12 2 82	1 68 3 05 2 88 3 29 2 91	1.62 2 38 2 92	1			4 2 79 5 2 85 1 3 12
Av, 1901-5 to 1908-9.	62 48	2 64	2.64	2. 70	2 51	2 61	2 65	2 77	32 31				
1909-10 1910-11 1911-12 1912-13 1913-14	2 22 2 45	2 38 2 42 2.45 2 65	2 75 2 28 2 58 2 58	2 50 2 15 2 62 2 88	2 40 2 25 2 82 2 82	2 50 2 25 3 16 2 90	2 50 2 18 3 10 2 40	2 30 2 18	2 10 2 25 	2 05 2 25	3 22	2 12	
Av., 1903-10 to 1913-11		62 48	⁶ 2 65	62 61	62 57	62.70	62 54	³ 2 33					
1914-15 1915-16 1916-17 1917-15 1918-19	3 26	4 02 3 25 2 99 6 00	3 50 3 08 3 02 6 72	3 00 3 11 3 50 6 52	2 78 3 32 3 12 6 27	3 48 3 00 3 05 7 00	3 75 3 28 3 38 6 75	3. 81 3. 32 3. 72	3. 51 1. 90	3 61 5 55	1 00	5.75	4 3, 52
1919–2). 1920–21	13 00	11 00						1 75			2 00		
Av., 1914-15 to 1920-21.	66 53	b 5 45	64 08	64 11	63 95	64 13	83 83	63 15	64 10	64. 55		·	
1921-22 1922-23	2 75 4 25	4 00 3 30	4 25 3 30	2.75 3.25	3 50 3.25	3 05	3 50	3.90	4 00	3. 75	3. 85	4.00	3 61

¹ Average for 7 months.
2 Average for 11 months.
3 Average for 3 years.

⁴ Average for 8 months. ⁵ Average for 9 months. ⁶ Average for 4 years.

Average for 10 months.
 Average for 5 years.

Table 144.—Rice: International trade, calendar years 1909-1921.

Mostly cleaned rice. Under rice is included paddy, unhulled, rough, cleaned, polished, broken, and cargo rice, in addition to rice flour and meal. Rice bran is not included. Rough rice, or paddy, where specifically reported, has been reduced to terms of cleaned rice at ratio of 162 pounds of rough or inhulled to 100 pounds of cleaned. "Rice, other than whole or cleaned rice," in the returns of United Kingdom is not considered paddy, since the chief sources of supply indicate that it is practically all hulled rice. Cargo rice, a mixture of hulled and unhulled, is included without being reduced to terms of cleaned. Broken rice and rice flour and meal are taken without being reduced to terms of whole cleaned rice. See "General note," Table 21.

Clauming	Average,	1909-1913.	19	919	19	920	19	21
Country.	Imports.	Exports.	Imports.	Exports	Imports	Exports.	Imports	Exports.
PRINCIPAL EXPORT- ING COUNTRIES.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds	1,000 pounds.
British India French Indo-China. Siam.	41	5, 337, 516 2, 288, 040 1, 928, 507	285, 928	1,581,737 2,130,135 987,873	176,082	2,390,397 2,604,906 621,398	280, 354 186	2,740,708 2,799,953
PRINCIPAL IMPORT- ING COUNTRIES.								, , , , , , , , , , , , , , , , , , , ,
Austria-Hungary Belgium Ceylon China	21,753 821,654 704,992	461 99, 948 2 102	27, 527 2 650, 324 211, 300	62,671	1 28, 912 116, 777 14 678, 555 153, 567	1 483 6,227 296,758 41,578	1 55, 616 166, 289 16 719, 017 874, 835	1 309 60, 069 124, 790 (3) 2, 857
Cuba	98, 690 517, 861	132, 400 53, 700 79, 087 396, 628	321, 412 610, 582 53 349, 763	9, 031 51, 610 23, 407	482,279 491,783 272 197,119 172,865	1	1,685,518 59,923 349,272	4,961 43,977 62,920
Japan Mauritius Netherlands	655, 676 132, 513 778, 682	61, 936 4 1, 446 476, 276 357, 518	1, 547, 461 96, 619 41, 830 287, 617	19, 813 223 130, 348	157, 028 142, 047 49, 618 300, 978	25, 682 2, 490 161, 691	531,793 101,044 189,948	31,414 27,889
Penang. Perak Philippine Islands Russia	412, 781 250, 461	5 43, 312 6 4 5, 746	118, 023	2, 891 110	101, 165 170, 491 2, 219	26,605 69	131, 235	715
Selangor	768, 853 209, 814	758, 875 90, 564 16, 215 592, 361	736, 857 415, 828 163, 308 816, 761	540 498, 796 89, 074 376, 876 204, 473	189, 938 443, 981 422, 231 131, 647 510, 025	7 198, 133 32, 263 392, 613 240, 183	759, 058 76, 237 1,382, 075	18,606 600,059 685,911
Total	11, 439, 950	12, 720, 845	6,747,227	6,341,533	5,119,598	7,096,969	7, 362, 416	7,205,138

¹ Austria only. ² Three-year average.

GRAIN SORGHUMS.1

Table 145.—Grain sorghums: Acreage, production, and value, by States, 1921 and 1922, and totals, 1915-1922.

[Leading producing States]												
State and year,	Thousands of acres.		Averag in bu per s		(thous	uction ands of uels).	price, ce	ge farm ents per Nov. 15.	Farm value (thousands of dollars).			
	1921	1922 2	1921	1922	1921	1922 2	1921	1922	1921	1922 2		
Iowa. Missouri Nebraska Kansas. Texas. Oklahoma Colorado. New Mexico. Arizona	9 12 15 858 1,950 1,240 237 134 40	6 15 19 1,039 1,970 1,450 247 145 30	25. 0 23. 0 22. 0 21. 4 29. 0 21. 0 14. 0 25. 0 30. 0	24. 0 20. 0 18. 0 19. 5 20. 0 13. 5 15. 0 11. 0 30. 0	225 276 330 18,361 56,550 26,040 3,318 3,350 1,200	144 300 342 20, 260 39, 400 19, 575 3, 705 1, 595 900	70 80 40 34 41 30 52 40 60	55 85 74 74 100 80 70 80 80	158 221 132 6, 243 23, 186 7, 812 1, 725 1, 340 720	79 255 253 14,992 39,400 15,660 2,594 1,276 720		
California	140 4,635	130	31.0	32.0	4,340 113,990	4,160 90,381	70 39. 1	87.8	3,038 44,575	4,160		
1920 1919 1918 1917 1916	5, 1 5, 0 6, 0	20 060 036 153	25. 25. 12. 11.	8 8 1 9	137, 130, 73, 61,	408 734 211 409 858		. 9 . 4 . 0 . 9	127, 166, 109, 99,	6 29 510 881 433 027		

³ Less than 500. ⁴ Two-year average.

⁵ One year only.

GRAIN SORGHUMS-Continued.

Table 146 -Grain sorghums: Forecasts of production, monthly, with preliminary and final estimates.

Year.	July.	August	September.	October	November production estimate.	Final estimate.
1916. 1917. 1918. 1919. 1920. 1921.	1,000 bush. 91,516 110,005 123,504 122,750 124,733 121,183	1,000 bush. 89,474 83,198 95,441 130,153 125,924 129,602 113,693	1,000 bush. 71, 662 102, 938 74, 211 129, 509 133, 964 126, 967 96, 036	1,000 bush 78, 155 98, 659 72, 650 127, 053 139, 503 127, 930 95, 840	1,4°n bush. 61, 024 73, 380 61, 182 123, 343 148, 747 125, 724 81, 488	t,000 bach 53,858 61,409 73,241 130,734 137,408 113,990 190,381

¹ Preliminary estimate.

Table 147.—Grain sorghums: Farm price, cents per bushel, on 15th of month, 1916-1922.

Year.	Jan.	Feb.	Mar	Apı.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.
1916. 1917. 1918. 1919. 1920. 1921.	119.1 170 8 153.7 137.3 65.6 41.4	120.0 185.7 156.9 138.7 57.8 48.0	147. 0 193. 5 150. 9 129. 8 67. 3 60. 5	53.6 152.0 204.0 162.1 145.1 53.8 63.2	58.2 188.0 211.0 173.6 154.5 51.5 61.2	60. 0 206. 3 179. 6 174. 1 153. 9 62. 0 63. 8	62.8 214.0 165.6 175.9 135.2 51.0 68.7	72.4 213.3 177.2 176.9 150.0 58.0 87.7	\$3.8 187.7 181.0 153.7 124.8 54.9 77.1	80.8 174.1 175.9 139.7 95.5 48.3 85.6	102.4 160.6 150.5 133.6 91.5 35.8 87.8	101.5 166.7 151.8 141.3 8! 7 33.8 89.3

Table 148 —Grain sorghums: Monthly and yearly average price per 100 pounds, No. 2 White Kafir, Kansas City, 1909-10 to 1921-22.

Man tond in a sometimental state of the same												-	
Crop year	Nov.	Dec	Jan	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oet.	Aver- age.
1909-10 1910-11 1911-12 1912-13 1913-14	\$1. 20 1. 12 1. 06 . 98 1. 57	\$1.31 .96 .99 .86 1.63	\$1.53 96 1.19 .85 1.72	\$1.42 .93 (2) .83 1.72	\$1.37 .91 1.29 81 1.76	\$1.32 .91 1.43 .82	\$1.46 1.06 1.44 .88 2.00		\$1, 53 1, 42 1, 63 1, 09 (2)	*1.81 1.31 1.68 1.11 (2)	\$1.78 1.27 1.36 1.53	\$1.49 1.21 1.13 1.51	\$1. 15 1. 12 1. 31 1. 06 1. 74
Average, 1909-1913	1.19	1. 15	1. 25	1.23	1. 23	1. 13	1.37	1.28	1. 12	1.56	1, 19	1.26	1.34
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	1.04 .91 2.34 3.40 2.96 2.67 1.39	1. 11 . 99 2. 11 3. 25 2. 61 2. 93 1. 17	1.33 .99 2.43 3.33 2.60 2.49	1.38 .96 2.18 3.69 2.70 2.17 .91	1. 28 . 93 2. 66 3. 84 2. 56 2. 31 . 85	1. 18 1. 06 3. 17 3. 37 2. 67 2. 38 . 80	1.11 1.05 3.79 2.93 2.97 2.65 1.03	1, 20 1, 11 3, 36 2, 65 3, 42 2, 52 1, 12	1, 16 1, 22 4, 00 3, 03 3, 54 2, 36 1, 21	1.09 1.58 1.18 3.40 3.61 2.13 1.13	1.04 1.71 4.31 3.40 2.11 2.21 1.13	1.06 1.84 3.69 3.27 2.31 1.81 1.02	1.17 1 19 3.21 3.28 2.86 2.41 1.06
Average, 1914-1920.	2. 10	2, 03	2.02	2.04	2,06	2.09	2, 22	2, 20	2.36	2. 53	2, 32	2. 15	2, 17
1921-22	. 85	.90	.90	1.29	1.32	1.20	1.28	1.38	1.66	1.72	1.98	1.83	1.36

Compiled from Kausas City Price Current and Market Review.
 No quotations.

Table 149.—Kafir: Monthly and yearly receipts at Kansus City, 1909-10 to 1921-22.1

[100 pounds.]

	Stat	ist	ics	of	Gr	aii	n	Sorg
Yearly total.	402, 200 6S0, 500 1, 216, 440 1, 572, 650 227, 930	819,940		305, 130, 300 437, 190			2,048,130	1, 957, 310
October.	2,000 34,500 57,900 14,750 23,410	26, 520	72,690	3,680	44, 970 68, 990	117,040	47,230	77.000
Septem- ber	3,000 10,500 34,500 15,450 4,930	14,250	62,830	, e, 4 0 0 0 0 0 0 0 0 0 0 0 0	45, 660 89, 320	67, 140	47, 420	22, 400
August	4,200 23,300 25,870 6,160 620	12,070	113,960	4,310 16,020	36,340 131,820	163, 860	80,300	53, 200
July.	6,600 17,000 41,890 50,510 1,850	23, 570		4,310			143, 890	95, 200
June.	11, 400 31, 500 67, 760 125, 050 8, 620	45,570	104, 100	5,4,830 130	52, 950 457, 690	360,360	196,940	135, 100
May.	15,000 40,000 104,109 72,070 9,240	48,680		12,12 12,13 12,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 13,03 10,03 10,03 10,03 10,03 10,03 10,03 10,03 10,03 10,03 10,03 10,03			171, 750	126,700
April	25, 200 110, 880 84, 390 8, 620	51,620		(8) 3. (8) 3. (8			201, 150	195, 800
March.	90,000 48,000 107,150 62,130 14,170	64,310		# % # %			252,020	264,600
Febru- ary	84,000 100,350 120,450 150,650 40,040	125, 130		215,350			256, 730	341,600
January.	70, 200 125, 505 142, 910 341, S50 74, 540	131,010		259,950			301.450	263, 600
Decem- ber.	2%, 200 160, 500 151, 000 360, 950 29, 570	152, 050		14,18 15,18 15,18			260, 440	195 290
Novem- ber.	59, 400 60, 600 115, 600 240, 450 12, 320	98, 540	174,330	15,128 20,23	25,340	200	7.28	147, 230
Year.	+10 -11 -12 -13 -14	Average, 1909-10 to 1913-14	-152 -16	-17.	-19 -20	F21	Average, 1914-15 to 1920-21	-22 8

¹ Compiled from Kansas City Annual Statistical Report Brard of Trade and Minneapolls Daily Market Record, ² Kafir, milo marze, and feterita included from January, 1915, to December, 1921.
§ January to October, 1922, estimates.

STATISTICS OF CROPS OTHER THAN GRAIN CROPS.

POTATOES.

Table 150.—Potatoes: Area and production in undermentioned countries.

		A	rea.			Prod	uction.	
Country.	Aver- age, 1909- 1913.	1920	1921	1922 1	Average, 1909–1913	1920	1921	19221
NORTHERN HEMISPHERE. NORTH AMERICA. Canada ² United States ² Mexico. Guatemala	1,000 acres. 483 3,677	1,000 acres. 785 3,657	1,000 acres. 702 3,815	4,228	357,699 924	1,000 bushels. 133,831 403,296	1,552	
Total North Amei- ica 2 EUROPE.8	4,160	4,442	4, 517		435,572	537, 127	454, 169	
EUROPE.* United Kingdom England and Wales 2. Scotland 2. Ireland 2. Norway 2. Sweden 2. Denmark 2. Netherlands 2. Belgium 2. Luxemburg 2. France 2. Spain 2. Fortugal. Malta 2. Italy 2. Switzerland 2. Germany 2 3. Austria 3. Czechoslovakia. Hungary. Yugoslavia 2. Serbia, Croatia-Slavonia, and Bosnia-Herzego-	186 4 8, 260 4 3, 105 4 1, 521	545 162 584 130 367 228 427 363 33,560 841 123 5,986 290 1,494 626 349	558 154 568 130 305 208 441 419 33 3,595 789 2 763 113 6,541 313 1,574 665 532	561 1.07 204 454 442 36 3,566 806 741 112 6,723 1,607 466	99, 890 34, 674 119, 874 21, 821 60, 327 4 30, 864 110, 153 107, 021 6, 439 4-489, 377 93, 413 40, 537 4 1,681,959 4 456, 485 4 180, 103	117, 637 46, 181 71, 141 31, 076 61, 639 45, 316 121, 514 82, 912 5, 284 427, 610 107, 834 6, 218 632 52, 260 28, 256 1, 024, 301 183, 810 75, 967 38, 432	26, 219 68, 525 50, 173 107, 346 71, 534 9, 644	44, 240 124, o23 79, 267
Buigaria 2 Poland 2 Lithuania Latvia Esthonia Fiuland 2 Russia, including Ukraine	4 292 4 8 4 5 86 4 2,628	20 241 4,061 122 156 208	19 409 4,796 326 146	20 362 5,303 170	4 27, 814 454 4 6 4, 778 4 373, 917 20, 975	977 22, 363 664, 920 13, 761 25, 240 17, 865	1,650 49,607 617,272 50,945 24,759	1,360 1,034,557 24,598 16,009
and northern Caucasia Total Europe 2	4 8,499	21,388	23, 185		4 878, 461	3, 255, 547	2,970,186	
AFRICA. Algeria ² Tunis Total Africa ²	45	42 3 42	46 2 46	46 3 46	1,783	985 147	653 147	1, 925 165
ASIA. Russia, Asiatic.	399	72	-10 	40	1,783	985	653	
Japanese Empire: Japan Chosen 2	174 7 65	296 186	187		33, 151 24, 738 7 6, 960	39,736 18,470	18,371	
Total Asia 2	65	186	187		6,960	18,470	18,371	
Total Northern Hemisphere 2	28,365	26,058	27,935		4,469,675	3, 812, 129	3,433,379	

¹ Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922. 2 Indicates countries reporting for all periods except 1922 either as listed or as part of some other country. 3 In Germany and some other European countries a considerable portion of the crop is for nonfood pur-Find the state of the state of

Table 150.—Potators: Area and production in undermentioned countries—Continued.

		Aı	ea.			Produ	ction.	To the second second
Country.	Aver- age, 1908-9 to 1912-13.	1919–20	1920–21	1921–22 ¹	Average, 1908-9 to 1912-13.	1919–20	1921–21	1921–221
Southern Hemisphere. Chile 2 Uruguay Agentina	1,000 acres. 66	1,000 acres. 76 6 370	1,000 acres. 83 9	1,000 acres. 73	1,000 bushels. 8,023	1,000 bushels. 10,377 138	1,000 bushels 12,168 150	1,000 bushels. 13,877
Umon of South Africa Rhodesia, southern Australia New Zealand 2	3 62 137 28	100 2 114 25	2 22	2 19	8 3, 071 14, 077 6, 047	3,367 118 10,984 5,402	3,734 119 4,728	50 4,185
Total Southern Hemisphere 2	91	101	105		14,070	15,779	16,896	
Total all countries 2	28,459	26,159	28,040		4,483,745	3,827,908	3,460,275	
Total all countries reporting	37, 965	27, 393	28, 529		5,478,383	3,927,713	3,541,754	

Table 151.—Potatoes: World production so far as reported, 1900-1921.

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
1900	Bushcls. 4,382,031,000 4,669,958,000 4,671,000,000 4,109,703,000 4,298,049,000 5,251,598,000	1906 1907 1908 1909 1910	Bushels. 4,789,112,000 5,122,078,000 5,295,043,000 5,595,567,000 5,242,278,000 4,842,109,000	1912 1913 1914 1915 1916 1917	Bushcls. 5,872,953,000 5,802,910,000 5,016,291,000 4,818,726,000 13,197,224,000 13,103,876,000	1918 1919 1920 1921	Bushels. 1 2,744,444,000 1 2,963,720,000 1 3,927,713,000 1 3,511,754,000

¹ Russia not included. In 1915 Russia produced about 17 per cent of the reported world production.

Table 152.—Potatoes: Average yield per acre of undermentioned countries, 1900-1922.

Year.	United States.	Russia (Euro- pean).	Ger- many.	Austria.	Hungary proper.	France.	United King- dom.
Average: 1900 1909 1910 1919		Bushels. 99. 9 1 107. 9	Bushels. 200 0 187. 9	Bushels. 151. 1 123. 2	Bushels. 118.7 1 122.2	Bushels. 133. 8 108. 0	Bushels. 193. 8 217. 1
1919 1920 1921 1922	91. 2 110. 3 90. 9 102. 6		146. 4 171. 1 146. 9 214. 5	83. 8 84. 8 83. 7	121. 4 69. 0 72. 9	94. 8 120. 1 84. 9	193. 3 184. 3 191. 2 256. 9

^{1 7-}year average.

Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.
 Indicates countries reporting for all periods except 1922 other as listed or as part of some other country.

² England and Wales.

Table 153.—Potatoes: Acreage, production, value, exports, etc., in the United States, 1849-1942.

Note.—Figures in *italics* are census returns, figures in roman are estimates of the Department of Agriculture. Estimates of across are obtained by applying estimated proceedings of interaction decrease to the published acreage of the preceding year, a centitled a revised lassers used for applying percentage estimates whenever new census data are available. Acreages have been revised for year-1850-1908 so as to be consistent with the following as well as the proceeding census acreage, and total profession and farm values are adjusted accordingly.

				Aver-		Chicago	er hp	ton, A r	hu oel,	Domestic	Imports
Year.	Acre- age.		Produc- tion	farm price per bushel	Farm value Dec. 1.	Dece	mber	Folir M:	os ing	tiscal year beginning July 1	during fiscal year be- groung July 1
				Dec 1.		Low.	High.	Low.	High		, Duit 1
1819	1,000 acres.	Bush- els.	1,000 bushels 05,798	Cents.	t _{sto} n dollars.	Cents	Cento.	Cents	Cut	Bushein.	lius hels.
1859. 1866-1875. 1876-1885. 1886-1895.	1, 261 1, 998 2, 653	93. 0 81. 2 73. 8	111, 149 117, 266 162, 228 197, 285	53, 5 50, 6 50, 4	62, 754 82, 085 92, 938	36	56	19	72	519, 755 551, 258 551, 736	235, 316 2, 312, 121 2, 811, 614
1896 1897 1898 1899	2,975 2,813 2,811 2,939 2,987	91. 4 67. 9 77. 0 88. 6 82. 9	271, 769 191, 025 218, 772 260, 257 247, 759	20, 0 54, 2 41, 5 39, 7 12, 3	78, 783 103, 412 90, 897 103, 365 101, 761	18 50 30 35 40	26 62 36 46 48	19 60 33 27 35	26 57 52 39 60	926, 646 603, 187 579, 833 809, 172 741, 183	245,178 1,171,373 530,120 155,861 371,911
1901 1902 1903 1904 1905	2,996 3,078 3,080 3,172 3,195	66.3 95.5 85.1 111.1 87.3	198, 626 293, 918 262, 053 352, 268 278, 885	76.3 46.9 60.9 11.8 61.1	151,602 137,730 159,620 157,646 170,340	75 12 60 32 55	82 48 66 38 66	58 42 95 20 48	100 60 116 25 73	528, 481 813, 075 484, 042 1, 163, 270 1, 200, 326	7,656, 162 358, 505 3, 161, 581 186, 199 1, 948, 160
1906 1907 1908 1909 1910 2	3, 244 3, 375 3, 503 <i>\$</i> , 669 3, 720	102. 2 95. 7 86. 2 107. 5 93. 8	331,685 322,951 302,000 394,553 349,032	50. 6 61. 3 69. 7 51. 2 55. 7	167, 795 197, 863 210, 618 213, 679 194, 566	10 16 60 20 30	43 58 77 58 48	55 50 70 16 35	75 80 150 34 75	1 530, 461 1, 263, 894 763, 651 999, 476 2, 383, 887	176, 917 403, 952 8, 383, 966 353, 208 218, 981
1911 1912 1913 1914	3,619 3,711 3,668 3,711	80. 9 113. 4 90. 1 110. 5	292,737 420,647 331,525 409,921	79. 9 50 5 68. 7 48. 7	233, 778 212, 550 227, 903 199, 460	70 40 50 30	100 65 70 66	90 33 60 34	200 70 90 150	1,237,276 2,028,261 1,791,073 3,135,471	13, 734, 695 337, 230 3, 615, 993 270, 942
1915 1916 1917 1918	3, 734 3, 565 4, 384 4, 295	96. 3 80. 5 100. 8 95. 9	359,721 286,953 112,108 411,860	61. 7 146. 1 122. 8 119. 3	221,992 419,333 542,771 191,527	53 125 93 90	95 190 135 7 225	80 206 8 80 8 125	110 375 8 250 8 250	4,017,760 2,489,601 3,453,307 3,688,840	209, 532 3, 079, 025 1, 180, 180 3, 531, 076
1919 1920 2 1921 1922 4	3, 542 3, 657 3, 941 4, 331	91, 2 110, 3 91, 8 104, 2	322, 867 403, 296 361, 659 451, 185	159. 5 114. 5 110. 1 58. 2	514,855 461,778 398,362 262,6 08	³ 280 ³ 120 ³ 100 ³ 75	* 360 * 225 * 245 * 175	* 685 * 40 * 190	* 925 * 500 * 235	3, 723, 401 4, 803, 159 2, 327, 147	6, 940, 930 3, 123, 189 2, 100, 537

¹ Burbank to 1910.

² Figures adjusted to consus basis. ³ Per 100 pounds.

^{*} Preliminary estimate.

Table 154.—Potatoes: Acreage, production, and total farm value, by States, 1921-22.

	Thousand	la of a ano	Product	ion (thou-	Total value, basis Dec 1 price thod-		
State.	Thousand	is of acres		bushels)	Dec 1 pr sands of	ice (thou- dollars)	
	1921	1922 1	1921	1922 1	1921	1922 1	
Maine. New Hampshile. Vermont Massachusetts. Rhode Island.	129 11 25 29 3	135 14 25 29	38, 442 2, 210 3, 750 3, 335 345	21,600 1,400 3,000 2,610 270	37,676 3,024 3,900 5,069 552	9, 720 1, 470 2, 790 2, 480 243	
Connecticut New York New Jersey Pennsylvania Delaware	23	21	2, 309	3,369	3,554	3,360	
	320	340	33, 990	37,400	36,709	22,440	
	95	95	9, 025	16,435	12,816	11,833	
	251	264	21, 586	28,512	28,709	21,381	
	10	10	500	900	550	672	
Maryland	19	51	3,185	5,151	3,504	3,091	
Virginia.	149	155	16,092	16,585	17,701	10,730	
West Vuguna.	48	49	4,680	4,851	6,650	4,220	
North Carolina	46	48	4,048	4,512	5,789	4,557	
South Carolina.	30	33	2,550	2,508	3,825	3,210	
Georgia.	23	25	1,725	1,700	2,846	2,280	
Florida.	17	26	1,564	2,600	2,972	4,550	
Obro.	120	126	6,960	11,214	10,788	10,093	
Indicata.	70	74	3,570	5,624	5,176	4,721	
Illinois.	121	119	6,413	7,497	8,978	6,747	
Michigan. Wisconsin. Minnesota. Lowa. Missouri.	340	357	27, 200	37,812	25,840	12, 866	
	315	328	21, 420	40,672	20,349	13, 422	
	430	496	32, 250	43,710	29,625	15, 309	
	96	94	4, 128	8,460	5,779	5, 668	
	82	90	4, 750	5,400	6,421	4, 968	
North Dakota. South Dakota. Nebraska. Kansas. Kentucky.	124	198	11,901	17,820	8,333	5, 521	
	90	110	5,190	8,530	5,874	3, 775	
	102	139	8,160	11,676	9,792	5, 488	
	65	65	4,160	4,160	5,616	3, 817	
	58	59	3,770	4,720	6,220	4, 720	
Tennessee. Alabama Massissippi Lomsanta Texas	35	32	1,820	2,560	3,003	2,816	
	32	48	2,400	3,810	4,080	5,760	
	16	16	1,088	1,360	2,176	2,176	
	27	27	1,809	1,755	3,256	2,632	
	37	39	2,072	2,418	3,937	3,869	
Oklahoma.	36	40	2,088	2,720	3,863	3,346	
Arkansas.	33	35	1,815	2,380	3,267	3,094	
Montana	41	46	4,715	5,796	3,772	2,318	
Wyoming	19	23	2,052	2,530	2,421	1,265	
Colorado.	113	142	14,916	18,460	10,889	6,830	
New Mexico. Arizona Utah Nevada	4 15 4	4 6 21 5	240 460 2,415 592	200 510 4,137 920	432 641 2,053 710	290 459 1,655 552	
Idaho	64	86	11,840	15,910	9,117	4,932	
Washington	60	65	8,100	9,425	8,019	4,241	
Oregon	43	49	3,870	5,145	4,218	2,675	
California	74	76	10,360	10,260	13,468	7,387	
United States	3,941	4,331	361,659	451,185	398,362	262,608	

¹ Preliminary estimate.

Table 155.—Potatoes: Condition of crop, United States, on 1st of months named, 1901–1922.

		1		,	11	1	1		
Year.	July	Aug.	Sept.	Oet.	Year.	July.	Aug	Sept.	Oct.
1901 1902 1903 1904 1905 1906 1906 1907 1908 1910 1910	P ct 87. 4 92. 9 88. 1 93. 9 91. 2 91. 5 90. 2 89. 6 93. 0 86. 3 76. 0	P. ct 62.3 94.8 87.2 94.1 87.2 89.0 88.5 82.9 85.8 75.8 62.3	P ct. 52 2 89. 1 84. 3 91 6 80. 9 85. 3 80. 2 73 7 80. 9 70. 5 59. 8	P. ct. 54. 0 82. 5 74. 6 89. 5 74. 3 82. 2 77. 0 68. 7 78. 8 71. 8 62. 3	1912 1913 1914 1915 1916 1917 1917 1918 1919 1920 1921	P ct. 88.9 86.2 83.6 91.1 87.6 87.6 87.6 89.4 87.3	P. ct. 87. 8 78. 0 79. 0 92. 0 80. 8 87. 9 75. 1 87. 0 65. 8 84. 3	P. ct. 87. 2 69 9 75. 8 82. 7 67. 4 74. 5 69. 5 84. 3 79. 9	P. ct. 85. 1 67. 7 78. 3 74. 2 62. 6 79. 0 73. 7 67. 9 82 7 66. 5 77. 3

Table 156.—Potatoes. Forecasts of production, monthly, with preliminary and final estimates.

Year.	July.	August.	Septem- ber.	October.	November pro- duction estimate.	Final estimate.
1912	1,000 bush. 352,000 343,000 360,614 393,358 368,810 451,716 405,507 390,748 387,586 376,997	1,000 bush. 371,000 339,000 369,634 430,808 364,271 467,289 390,907 357,120 401,903 315,918	1,000 bush 398,000 325,000 370,963 405,909 318,492 461,908 384,529 349,194 412,933 322,985	1,000 bush 401,000 310,000 383,619 368,151 300,563 452,923 391,279 350,070 414,986 345,844	1,000 bush. 414, 289 328, 550 406, 288 359, 253 288, 964 439, 686 390, 101 352, 025 421, 252 356, 076	1,000 bush. 420, 617 331, 525 409, 921 359, 721 286, 953 442, 108 411, 860 322, 867 403, 296 361, 659
Average	383,034	380, 785	374, 991	372,714	375,618	375,056
1922	428,607	439,900	438, 398	433,015	433, 905	1 262,608

¹ Preliminary estimate.

Table 157.—Polatoes: Yield per acre, price per bushel December 1, and value per acre, by States.

**************************************	Yield per acre (bushels).						Farm price per bushel (cents).										Value per acre (dol- lars). ¹		
State.	5-year a v e r - age, 1918-1922.	1918	1919	1920	1921	1922	10-year aver- age, 1913-1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year aver- age, 1917-1921.	1922
Me N.H Vt Mass R.I	213 126 126 111 109	200 140 130 133 130	230 102 100 90 100	177 127 130 125 110	298 160 150 115 115	160 100 120 90	129	53 83 72 85 90	33 60 47 71 70	70 95 81 94 92	142 166 139 175 185	130 167 140 175 175	120 145 138 170 173	140 175 157 190 180	125 155 125 150 160	85 135 104 152 160	105 93 95	239, 81 194, 61 158, 98 192, 13 200, 23	105.00 111.60 85.50
Conn N.Y N.J Pa Del	106 109 122 98 84	95 98 92 80 87	75 109 96 100 83	115 125 156 115 106	103 103 95 86 50	140 110 173 108 96	135 105 119 113 102	87 80 82 80 75	65 44 61 58 70	96 82 75 75 75	175 158 155 148 125	164 130 141 135 130	165 122 170 151 140	195 145 169 154 125	150 118 125 124 100	150 108 142 133 110	60 72 75	162. 08 131. 97 161. 86 131. 20 102. 01	66.00 124.56 81.00

Table 157.—Potatocs: Yield per acre, price per bushel December 1, and value per acre, by States—Continued.

	Y	ield :	per a	ere (t	oush	els).		Farm price per bushel (cents).												r
State.	5-year a v e r - age, 1918-1922	1918	1919	1920	1921	1922	10-year aver- age, 1913–1922.	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	5-year a ver- age, 1917-1921.	1922	
Md Va W. Va. N. C S C	88 109 96 90	80 94 87 95 102	94 114 90 80 85	102 120 120 91 100	108 85 88	101 107 99 94 76	96 103 125 121 161	80 90 82	77 81 92	61 65 73	133 137 158 140 175	143	120 160 133	157 175 163	95 135 142	110 163 143	65 87 101	101. 13 129. 6 149. 8 128. 48 175. 19	69. 86. 94.	55 13 94
Ga Fla Ohio Ind Ill	71 95 75 69 61	70 100 69 80 72	70 76 61 44 52	74 105 100 96 65	58 51	68 100 89 76 63	159 172 126 120 126	117 85 84	113 53 56	115 70 56	175 200 182 177 179		200 150 135	210 192 195	135 133	190 155 145	175 90 84	144, 57 186, 19 117, 70 101, 66 102, 75	175.0 80.1 63.8	00 10 84
Mich Wis Minn Iowa Mo	93 101 91 72 67	81 110 105 72 61	90 91 87 46 75	105 108 99 110 82	75 43	106 124 90 90 60	85 80 78 116 126	52 82	30 30 32 59 73	56 45 39 54 60	160 147 130 175 180	105 90 91 131 137	80 75 133	140 153 192		90	33 35 67	95 94	40. 9 31. 5 60. 5	92 50 30
N D S. D Nebr Kans Ky	85 77 81 68 78	99 91 86 53 75	63 50 55 76 70	79 106 99 85 99	96 61 80 64 65	90 78 81 64 80	82 92 103 127 131	78 91	42 47 54 77 81	41 35 42 74 55	115 137 150 165 142	130 111 107 152 140	93 118 144	190 190 190	97 120 150	107 120 135	41 47 92		31.3 39 4 58.8	32 48 88
Tenn Ala Miss La Tex	70 76 81 68 60	70 80 80 79 55	67 80 85 64 73	83 67 87 65 52	52 75 68 67 56	86 85 65 62	130 156 152 154 170	100 96	95 97	63 90 84 95 105	149 169 160 167 190	126 182 168 184 210	181 165 150	215 185 220	200	170 200	150 160 150	113, 56 141, 87 146, 06 125, 92 122, 02	120.0 136.0 97.	00 00 50
Okla Ark Mont Wyo Colo	62 65 109 115 133	34 50 135 150 160	75 73 60 80 115	71 78 110 125 130	55 115 108 132	68 68 126 110 130	154 149 87 99 86	105 100 67 65 65	90 97 64 70 50	50	195 190 120 128 135	180 157 102 104 91	184	205 160 190		185 180 80 118 73	130 40 50	116. 95 120. 55 101. 68 143. 63 139. 97	88.4 50.4	10 10 00
N. Mev Ariz Utah. Nev	69 89 173 155	100 85 180 171	58 70 136 135	75 90 189 135	60 115 161 148	50 85 197 184	156 150 83 107	140 135 58 68	95 120 60 70	63 70	175 180 130 130	165 150 78 120	97 123	195 137 150	210 190 80 156	180 140 85 120	90 40 60	145. 42 160. 05 159. 28 209. 89	78. 8 110. 4	50 30 10
Idaho . Wash . Oreg Cahf U.S.	178 138 106 138 	185 132 110 143 95. 9		180 155 130 140 110. 3		185 145 105 135 104, 2	77 84 84 115 101. 0	50 60 58 70 68. 7	48 55 60 70 48. 7	56 53 60 75 61, 7	127 98 90 140 146, 1	79 92 80 150 122, 8	81 101 100 120 119 3	145 150 171	68 95 80 150 114.5	77 99 109 130	45 52 72	154. 40 142. 09 107. 90 200. 68 122. 19	65. 2 51. 6 97. 2	25 60 20

Table 158.—Potatocs: Farm price, cents per bushel on 1st of each month, 1908-1922.

Year.	Jan	Feb	Mur	Apr.	May.	June.	July	Aug.	Sept.	Oet.	Nov	Dec.	Aver- age,1
1908	63 1 72.0 56.0 54.1	66 0 73 3 56 2 55, 1	80, ()	86.3 47.4	97 3 38. I	97 7 37. 1 63. 3	91.0 30.1 96.3	\$5.1 61.9 136.0	71 5 72 9 113.7	67. S	51.8 55.7 76.3	əi 1 55 7	70.8 56 4
1912	50 6 68 1 49 7 70.6	53, 1 69, 7 50, 4 88, 0	52. 0 70 7 50. 4 91. 4	50.3 70.0 47 S 97.6	48. 2 71. 4 50 5 91. 8	55, 2 71, 3 50, 8 98, 3	49. 8 81. 5 52 1 102. 3	69, 2 87, 1 56, 3 95, 4	75.3 71.9 50.5 1(4.5	73.9 64.7: 48.8:	52, 8 60, 5 135, 7	45.7 61.7 110 I	64 3 61 4 54. 1
1917	116.1	122 9 114, 4 217, 6	120 3 109.4 243 5	92 6 105, 4 295 6	80. 1 118. 9 393. 6	121.4	94.9 128.4 386 0	141.6 192 8 302.9	148. S 187. o 181 9	143.6 164.2 134.8	127. 8 127. 2 152. 8 118. 0 123. 5	119.3 159.5 111.5	121.8 118.2 202.2
1922. Average 1913-1922.	108.6	115, 5	117.8	113 6	101.3	104.1	103.3	114.8	88.0	69.6	62. 8	5K. 2	71.1

¹ Weighted average.

Table 159.—Potatoes: Extent and causes of yearly losses, 1909-1921.

Year.	Deficient mois- ture	Excessive moisture	Floods.	Frost or freeze	Hail.	Hot winds.	Storms	Total climatic	Plant discase.	Insect pests	Animai pests.	Defective seed.	Total
1909 1910 1911 1912 1913	P. ct. 11.3 15. 1 25. 8 5. 3 20. 8	P. ct. 2.8 1.7 2.0 3.3 1.6	P. ct. 0.3 .2 (1) .4 .2	P. ct. 1.8 1.1 1.9 .6 2.0	P. ct 0. 2 .1 .1 .1	P.ct. 0.2 .3 3.2 .2 .7	P. ct. (1) (1) (1) (1) (1) (1) (1)	P. ct. 16.7 19.2 33.5 10.5 26.0	P. c? 1.7 3.9 2.7 5.8 1.7	P. ct. 1.7 5.0 2.6 3.9 3.9	P.ct. 0.1 .1 .1 .2 .1	P. et 0. 2 . 4 . 6 . 3 . 5	P. ct. 21.3 29.8 42.4 21.7 34.5
1914 1915 1916 1917	10. 2 2. 2 19. 7 8. 8 14. 7	2.1 8.7 6.5 3.5 1.0	.1 .5 .4 .2 .2	2.2 1.9 3.0 1.5	.1 .2 .2 .1	.4 .1 1.4 .3 .6	(1) •1 •1 (1) (1)	14.0 14.0 31.5 16.3 18.4	1.7 13.0 5.6 4.1 5.3	3.3 2.4 4.5 2.4 3.3	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	.3 .1 .2 .1 .2	21. 2 30. 4 43. 6 23. 8 28. 3
1919 1920 1921	16.3 6.7 21.7	5.0 2.2 1.0	.4 .3 .1	.7 .6 1.2	.1 .2 .2	.7 .2 1.8	.1 0 0	23.6 10.2 26.1	8.8 8.1 5.7	1.7 2.8 3.5	(1) :1	:: :2 :3	$\frac{38.1}{21.8}$ $\frac{36.2}{36.2}$
Average	13.8	3. 2	.3	1.5	.1	.8	0	20.0	5. 2	3. 4	. 1	.3	30, 2

¹ Less than 0.05 per cent.

Table 160.—Potato stocks, January 1 (new basis).

State and year.	Total pro-		antable Jan. 1	Per cent	held by—	Price per	r bushel.
state and year.	duction.	Per cent of crop.	Quantity	Growers.	Dealers	Dec. 1.	Mar 1.
19 surplus late-potato States: 1 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23.	1,000 bushels. 221,712 187,366 286,458 273,401 225,248 264,222 264,052 325,425	32 6 26 1 32 2 29.9 26 35 3 31.4 35.3	1,000 bushels 72, 195 48, 893 92, 210 81, 727 58, 530 95, 061 82, 657 114, 078	82 4 73 7 85 4 85 8 79 4 85 2 80 85 8	17 6 26, 3 14 6 16 2 20 6 14.8 20 14 2	Cents. 58.7 141 3 109 8 103 151 103 1 99.9 46 2	Cents 88 2 233 1 101 3 88 8 234 2 65 6 105. 2
1921-22 1922-23 16 deficient late-potato States, 2 1915-16 1916-17, 1917-18, 1918-19, 1919-20, 1920-21, 1921-22, Total, 35 States;	74, 923 98, 697	10. 6 7. 5 13. 3 11. 4 9. 1 12 9. 8 11. 4	12,238 5,967 16,568 1,531 6,875 12,930 7,066 11,212	76 8 70.6 82.4 79 2 74.4 81 7 76 9 77.2	23. 2 29. 4 17. 6 20. 8 25. 6 18. 3 20. 1 22. 8	66. 1 164. 6 140. 6 146. 4 181. 1 130. 5 109. 5 81. 6	10! 6 264 9 142 1 133 8 251 7 105. 2 141 3
1015-16. 1915-17. 1917-18. 1918-19. 1919-20. 1921-21. 1921-22. Loading surplus States:	337, 205 205, 656 410, 587 374, 649 298, 539 376, 866 317, 980 422, 122	25 20 6 26, 5 24, 9 21, 9 28, 7 26, 6 29, 7	84, 433 54, 860 108, 778 93, 258 65, 405 107, 901 90, 023 125, 290	81 1 73 2 84 6 82 8 78 8 81 6 79.6 84.8	18 26.8 15.4 17.2 21.2 15.4 20.4 15.2	60 6 147 3 117. 7 114, 2 153. 8 110 2 110. 1 53. 4	91 7 241 3 111 8 100 4 239 5 75 9 114.5
Maine— 1915–16 1916–17 1917–18 1918–19 1919–20 1920 21 1921–22 1922–23	18,750	40.5 38 41.5 43.7 44.5 41.6 43.7 41.3	10, 295 9, 708 8, 353 9, 798 11, 373 9, 609 16, 814 8, 922	82 72 84 81 78 88 81 84	18 28 16 19 22 12 19 16	70 142 130 120 140 125 85 45	105 260 135 85 200 55 96
New York — 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 1921-22 1922-13	22, 010 22, 400 38, 000 37, 240 33, 790 40, 625 33, 980 37, 100	36, 5 25, 8 36, 5 31, 5 30, 2 40, 3 29 32, 8	8,012 5,786 13,885 11,730 10,218 16,380 9,850 12,252	95 85 95 90 91 92 92	5 15 3 8 10 9 8	82 158 130 122 145 118 108 60	108 275 120 105 220 63 116
Pennsylvana— 1915-16. 1916-17. 1917-18. 1918-19. 1919-29. 1920-21. 1921-22. 1922-23. Malairan.	20, 160 19, 040 29, 532 22, 000 23, 400 28, 290 21, 586 28, 512	22, 0 17, 6 23, 1 23, 1 16, 5 24, 2 19, 2 23, 1	4, 135 3, 351 6, 822 5, 082 3, 861 6, 846 1, 155 6, 586	83 81 86 88 80 91 81 80	17 19 14 12 20 9 19	75 148 135 151 154 124 133 75	109 264 131 126 223 78 130
Michigan 1915-15. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23.	20, 945 15, 360 35, 910 28, 550 27, 000 31, 225 27, 200 37, 842	31. 2 21. 6 34. 8 30. 6 21. 0 38. 4 30. 0 34. 8	7, 163 3, 318 12, 197 8, 739 5, 670 13, 910 8, 160 13, 169	82 78 85 82 77 83 81 88	18 22 12 18 23 17 19	56 160 105 89 135 92 95 34	86 235 85 77 228 52 96

¹ Maine, Vermont, New York, Pennsylvania, Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Montana, Wyoming, Colorado, Utah, Nevada, Idaho, Washington, Oregon and California.

² New Hampshire, Massachusetts, Rhode Island, Connecticut, New Jersey, Delaware, Maryland, Virgina, West Viiginia, Ohio, Indiana, Illinois, Iowa, Missouri, Kansas, and Kentucky.

Table 160.—Potato stocks, January 1 (new basis) Continued.

	Total pro-		antable Jan I.	Per cent	held by—	Price pe	r bushel.
State and year.	duction.	Per cent of crop.	Quantity.	Growers.	Dealers.	Dec. 1	Mar 1.
Leading surplus States—Contd.	1,000		1,000				
Wisconsin—	bushels 25, 923	35 4	bushels 9,178	78	22	Cents 45	Cents.
1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 1921-22	13, 630	33.6	4,580	79	21	147	227
1917–18	34,998	36.0	12,599	80	20	90	83 76
1918–19	33, 440 28, 388	30. 6 21. 6	10, 233	80 78	20 22	80 110	$\frac{76}{227}$
1919-20	33, 264	37. 2	6, 132 12, 374 8, 482	88	12	86	62
1921-22	21, 420	39. 6	8,482	74	26	95	109
	40,672	39.6	16,106	88	12	33	
Minnesota— 1915-16. 1916-17. 1917-18. 1918-19.	30 210	29.9	9,033	72	28	39	67
1916-17	30, 210 16, 800 33, 600	21 0	4,010	62	38	130	210
1917–18.	33,600	32 5	10,920	80	20	91	7.5
1918–19	32, 760 28, 884	27.3 21.5	8, 943 6, 196	76 76	24	75 153	63 237
1920-21	31, 581	32. 5	10, 264	80	24 20	80	54
1921-22	32, 250	30. 1	9,707	73	27	90	91
1922-23 North Dakota—	43, 740	41.1	17,912	74	26	35	
1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23. South Dakota	7, 200	20. 5	1,476	74	26	41	71
1916-17	6, 975	11.0	767	64	36	115	173
1917-18	3,870	14.5	561	86	14	130	110
1918-19	9, 108 5, 229	21.0 10.5	1,913 549	86 86	14 14	73 160	83 243
1920-21	6, 557	16. 5	1,082	62	38	98	91
1921-22	11, 904 17, 820	13. 7	1,625	63	37	70	93
1922-23 South Dakota—	17, 820	30.0	5,346	83	17	31	
1915-16	7,820	19.3	1,513	77	23	35	59
1916-17	4, 290	12.6	540	50	50	137	209
1917–18	4, 290 7, 200 8, 645	19.8	1,426	70	30	111	132
1915-16. 1916-17. 1917-18. 1918-19.	8, 640 4 050	19. 4 16. 2	1,673 656	84 80	16 20	93 190	91 254
1920 -21	7,950	17.5	1,395	82	18	97	92
1921-22	5, 490	10.0	549	82	18	107	108
1922-23 Nebraska—	8, 580	15.3	1,313	16	9	44	
1915-16	11,550	20.5	2,368	74	26	42	88
	7,665	14.5	1.111	69	31	150	228
1917-18	12, 495	24. 0 18. 5	2,999 1,925	79 76	21	107	120
1917-18. 1918-19. 1919-20.	10, 406 5, 720	25. 0	1,430	78	24 22	118 190	135 273
1920-21	8,415	20.0	1,683	85	15	120	100
1921 - 22	8, 160	26.4	2, 154 2, 919	73	27	120	137
1922-23 Colorado—	11,676	25.0	2,919	88	12	47	
1015-16	7, 155	41.2	2,951	87	13	55	71
1916-17	7, 155 6, 900 12, 800 15, 810	31.5	2, 951 2, 174 5, 760	86	14	135	238
1018_10	15,800	45. 0 42. 0	6, 653	90 89	10 11	91 99	91 66
1918–17 1917–18 1918–19 1919–20	8,855	28. 5	2, 524	89	ii	170	245
1920-21	9,490	36.8	3,488	92	8	80	53
1921-22. 1922-23.	14, 916	44.2	6,600	90	10	73	65
	18, 460	43.5	8,030	95	5	37	
1915-16	3, 500	26.6	931	92	8	56	73
1916-17	4,050	30.8	1, 247	84	16	127	175
1918-19	6, 084 6, 290	30. 8 40. 6	1,874 2,554	86 86	14 14	79 81	65 59
1919-20	6, 665	28. 7	1,913	63	37	151	253
1920-21	8, 100	49.0	3,969	90	10	68	48
1915–16. 1916–17. 1917–18. 1918–19. 1919–20. 1920–21. 1921–22. 1922–23.	11,840 15,910	40. 2 42. 0	4,757	82	18	77	89
1344-43	10, 910	42.0	6, 682	98	2	31	

Table 161.—Potatoes: International trade, calendar years 1911-1921.

General Note.—Substantially the international trade of the world. It should not be expected that the world export and import totals for any year will agree. Among sources of disagreement are these: (1) Different periods of time covered in the "year" of the various countries; (2) imports received in year subsequent to year of export, (3) want of uniformity in classification of goods among countries, (4) different practices and varying degrees of failure in recording countries of origin and ultimate destination; (5) different practices of recording reexported goods, (6) opposite methods of treating free ports, (7) clerical errors, which, it may be assumed, are not infrequent.

The exports given are domestic exports, and the imports given are imports for consumption as far as its feasible and consistent so to express the facts. While there are some inevitable omissions, on the other hand, there are some duplications because of reshipments that do not appear as such in official reports. For the Umited Kingdom, import figures refer to imports for consumption, when available, otherwise total imports, less exports, of "foreign and colonial merchandise." Figures for the Umited States include Alaska, Porto Rico, and Hawan.

	Average	1911–1913	19	19	19	20	19	21
Country.	Imports	Exports.	Imports.	Exports.	Imports.	Exports	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Belginm Canada China Denmaik France Italy Japan Netherlands Portugal Russia Spain	1,000 bu 4,921 525 36 40 7,143 242 1,952 273 309	1,000 bu 8,602 1,207 288 928 8,683 3,975 440 16,451 7,762 1,835	1,000 bu. 136 616 (1) 11,712 30 108 578	1,000 bu. 3,833 6,151 205 4,610 1,316 505 370 13,549 18	1,000 bu. 1,520 923 30 2,465 1	1,000 bu. 2,371 5,583 192 7,954 7,903 3,074 328 14,424	1,000 bu. 11,286 466 57 5,639 706	1,000 bu. 678 3,258 272 2,319 8,570 4,260 18,321
PRINCIPAL IMPORTING COUNTRIES. Algeria. Argentina. Austria-Hungary. Brazil Cuba. Egypt. Finiland. Germany. Norway. Philippine Islands.	2,001 599 479	931 543 1,451 (1) 2 2 28 15 12,412 60	539 81 43 3,266 163 1,237 215 289	2°9 1,024 14 6	1,631 26,037 276 2,802 785 172 26,852 97 291	473 (1) (1) 4 2,109 568	991 2 4, 148 80 624 138 499 352	720 2 24 18 13
Sweden Switzerland Umited Kingdom United States Other countries	700 3,172 11,382 5,707 1,993 78,767	64 42 6,246 1,814 782 75,151	732 94 1,846 5,544 826 28,085	623 774 13,276 3,642 520 51,046	208 456 9,719 6,062 1,676 62,047	1,535 584 690 4,154 627 52,899	657 1,082 5,678 2,018 1,455 36,226	51 2,825 3,500 380 46,369

¹ Less than 500.

² Austria only.

⁸ One year only.

Table 162.—Potatoes, white: Monthly average jobbing prices, per 100 pounds, at 10 markets for 1920-21 to 1922-23.

Market and year.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
New York: 1920-21 1921-22	\$1.41	1.18	1 90	2, 23	2.00	2.11	2.09	\$1, 96 1, 92	2.07	\$1.30 2.33	\$1.31 2.18	\$1.51 2.03
1922-23 Chicago:	4.07	3.27	3.03	1.81	1.01	.95		1. 22	1, 36			
1920-21 1921-22 1922-23	4. 83 4. 16	9. 11 4. 50 3. 57		16 14 12 33 12 29	2 3 12 2 3 11 2 1.63	2.40 2.265 2.1.17	2 2.00 2 1.00 2 1.00	2 2 11 2 1 7 2 1.05	-1.53	**1 29 21 98	1.15 21 (b	² 1. 25 ² 1. 80
Philadelphia: 1920-21 1921-22	3, 96	8 39 4 14	6.87 1.93	5, 58	2 59	1.89	1 57 2, 19	2.09	1 18	1.65	1. 29 2. 23	1.07
1922–23 Pittsburgh: 1920–21	3, 76	3. 13 9. 51	2.89 7.48	1.77 5.98	1. 10 3. 01	1.00 2.31	1.09	1.25	1.32	1,60		1, 48
1921-22 1922-23	4. 50 4. 36	3. 37 3. 47	2. 28 3. 19	2. 73 2. 20	3. 13	2.71 1 39	2. (4)	2. 10 1. 30	2 01	2 26	2. 13	2.01
St. Louis: 1920-21 1921-22 1922-23	5. 76 5. 87	10.75 3.49 3.81	8 35 2.77 2.96	6 60 2.81 2.49	3 69 3.16 1.73	2.71 2.83 1.53	2 25 2.25 1.20	2.33 1.89 1.20	1.87 1.93 1.10	1.55	1.39 2.11	1.48 1.98
Cincinnati: 1920-21 1921-22 1922-23	1. 12 3. 96	8, 65 4, 10 3, 28	7. 59 2. 49 3. 01	6. 49 2. 65 2. 41	3.41 3.52 1.71	2.57 2.96 1.48	2, 46		1.02 1.97 1.15	1, 68 2, 30	1. 58 2. 16	1.77 2.06
St. Paul: 1920-21 1921-22 1922-23			8, 80 3, 06 3, 46	8, 44 3, 05 2 1,60		: !						
Minneapolis: 1920-21 1921-22			9. 02 3. 05	8, 29 2, 90	3.43							
1922–23 Kansas City 1920–21			3. 36 8. 77	2.86	2 81	2,69	2 06	2.27				
1921–22 1922–23 Washington: 3	6.36 5.62	3. 93 3. 93			3.09	2.63		1 51	1.65 - 1.03	2.04	1. 99	1.88
wasnington:* 1920-21 1921-22 1922-23	4.73 4.48	9. 05 4 32 3. 60	6.81 2.11 2.91	5.82 2.39 2.21	3. 26 3. 27 1. 49	2.23 2.83 1.37	2, 22 2, 61 1, 39	2, 52 2, 43 1, 49	2, 32 2, 28 1, 48	2. 12 2. 62	1.69 2.58	1.71 2.44
1946-40	2,20	3.00	2. 91	2.21	1.40	1.07	1.50	1. 10	1.40			

¹ Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units, or vice versa, in order to obtain comparability.

² Carlot sales.

Table 163.—Potatocs, white ("Maine" and "State and Western"): Monthly average wholesale prices per bushel at New York market, 1900-01 to 1932-23.

Year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.
1900–1901 1901–2	\$0.50 .76	\$(). 45 . 72	\$0.46 .76	\$0.56 .78	\$0.56	\$0.52 .75	\$0.48 .84	\$0.48 .85	\$0.61 .75
1902-3 1903-1	.48	.62	.58 .59	.60 .74	.76 .66 .81	.66	.68 .96	64 1, 16	1.02
1904-5 1905-6	. 48	.51 .67	. 51 . 74	.50 .68	.49	.46 .60	. 42	. 36	.30 .76
1906-7 1907-8 1908-9	. 55 . 56 . 74	.58 .63	.51 .58 .79	.48 .64 .79	.48 .70 .79	.57	.60	. 56	.74 .80 .91
1909–10 1910–11	.65 .55	.56	.79 .56	.56	. 79 . 58	.81 .54 .49	. 88 . 49 . 47	.92 .40 .62	. 39
1911-12 1912-13	.81	. 79	. 90 . 64	.95 .68	1. 12 . 63	1.14 .67	1. 28 . 62	1.38 .66	1.25 .77
1913-14 1914-15 1915-16	.74	.69 .56 .78	.71 .54 .76	.70 .51 .90	. 80 . 51 1. 22	.83 .48 1.21	. 81 . 47 1. 23	. 85 . 50 1. 14	. 85 . 46 1. 12
1916-17 1917-18	1. 18 1. 20	1. 25 1. 62	1.69 1.37	1.61 1.39	1. 98 1. 66	2.67 1.47	2. 67 1. 14	3.00 1.11	3. 18 . 82
1918–19 1919–20	1. 58 1. 51	1. 44 1 37	1.37 1.57	1.50 1.79	1. 42 2. 31	1. 26 2. 64	1. 11 3. 33	1. 43 4. 28	1.49 4.17
1920-21 ² 1921-22 1922-23	1.37	1. 26 1. 16 . 78	1.38 1.25 .82	1. 27 1. 23 . 86	1. 16 1. 43	. 88 1. 35	. 88 1. 25	. 78 1. 12	. 66 . 90

^{*} Sales direct to retailers.

Table 164.—Potatoes, white: Carlot shipments, by States of origin, 1917-18 to 1921-22.

		1	,		·					
							1921	-22.		
State	1917-18	1918-19	1919-20	1920-21	Apr – June.	July- Sept	Oct - Dec	Jan – Mai	Apr June ²	Total, 1921–22.
Maine New York, Long	11,791	19,026	23, 414	17,817		5,031	10, 351	11, 363	3 11, 271	37,999
Island	4, 939 5, 171 11, 709 3, 727	4,350 5,739 5,889 2,119	3,701 9,115 10,409 3,712	5, 501 11, 001 17, 147 6, 189		2, 434 1, 250 9, 595 495	1,556 6,660 710 2,001	308 4,612 152 924	161 11,448 18 5 155	4, 959 13, 970 10, 475 3, 575
Maryland, Eastern Shore, 1st Maryland, Eastern	2,286	703	1,434	2,259	228	1,895				2,123
Shore, 2d Maryland, other Virginia, Eastern	625 22	273 10	667 58	799 47		······ ₂ ·	147 24	226 1	161	534 27
Shore, 1st	14,123	8,385	9,205	11,948	6, 500	6, 581				13,081
Virginia, Eastein Shore, 2d Virginia, Norfolk,	211	203	398	973		••••	231	105	23	359
Vugima, Norfolk,	5,003	2, 185	2, 285	2,995	3, 112	1,750				5,192
2d. Virgama, other. North Carolina. South Carolina. Florida. Michigan. Wisconsin. Minnesota. Lova. North Dakota. South Dakota. Kehnaska. Kentucky. Alajama. Louisiana. Texas. Oklahoma.	328 772 4,713 2,140 1,201 9,381 13,852 16,477 162 353 963 2,026 841 1,076 1,093 665	591 265 5,665 2,812 4,80 11,002 20,655 21,514 2,530 1,291 3,523 4,672 2,570 4,072 2,570 4,672 2,570 4,672	171 102 3, 306 1, 217 2, 275 12, 297 12, 297 22, 975 22, 975 2, 229 1, 661 1, 132 866 90 589 807	416 268 3,513 3,676 3,551 17,119 18,661 23,214 23,214 1,926 1,926 1,926 1,152 1,152 1,152 1,152 1,152 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536 1,536	186 2,919 2 186 6 2,342 1 19 8 691 1,075 8 1,096	189 651 14 792 839 5,829 2,171 1,175 1,651 2,302 467 3 60 3 84	282 31 9 5,976 3,470 12,118 6,542 2,013 1,979 54	123 1 10 2 4,736 4,522 7,800 12 1,481 1 1,288 1 1 1,288 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	121 8 13,620 72,159 3,912 100 413 15	526 407 3,599 2,510 2,411 15,173 10,981 29,659 91 10,196 3,418 5,22 2,279 610 006 1,103 1,108 241
Arkansas. Montana. Wyoming. Colorado Utah. Nevada Idaho. Washington Oregon Californa, north- qui district.	371 355 230 12, 462 816 1, 417 7, 120 2, 630 1, 903	280 771 107 13, 647 496 7, 726 7, 726 2, 924 1, 628 8, 151	136 352 265 8, 810 426 689 6, 898 3, 998 786 7, 118	236 949 515 11,345 563 415 8,143 3,765 1,756 8,403	315	8 291 212 4, 209 816 4 3, 512 667 128 1, 701	17 801 470 5, 010 223 254 4, 216 2, 479 413 1, 982	18 263 184 5,525 13 133 3,711 1,436 440 1,819	1 7 483 88 88 7 2,998 22 75 3,177 1,631 380 493	135 1, 838 951 17, 712 1, 074 466 14, 616 6, 213 1, 391 6, 510
California, south- ern district. All other	(10) 1,980	2,200 1,667	1,369 1,123	1, 687 1, 336	703 276	1,788 507	157 413	73 227	20 - 135	2,741 1,588
Total	161, 596	176, 552	167, 870	199, 165	11 22, 775	59, 134	70, 475	52, 232	12 33, 669	238, 285
papers in our or a communication or a process	-		-		7					-

¹ Shapments as shown in carlots include those by boat reduced to carlot basis.
2 Old crop only.
3 Includes 56 cars in July.
4 Includes 2 cars in July.
6 Includes 1 car in July.
6 Includes 9 5 cars in March.
7 Includes 3 cars in March.
9 Includes 20 cars in March.
9 Includes 20 cars in March.
10 Includes 30 therm district.
11 Includes 115 cars in March.
12 Includes 71 cars in March.
13 Includes 115 cars in March.

Table 165. -Potatoes, white: Monthly and yearly earlot shipments, by States, 1917-18 to 1922 25.

State and year.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Maine:									
Mame: 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23. Now York:				·	71	1.699	1,986	1,331	1,390 1,700
1918-19					91 947	2,076 $2,211$	2, 166 3, 338	1,596 2,513	1,700 2,465
1919-20					91	1, 126	2, 170	2,016	1,478
1921-22					579	4,452	1,651	2.882	2,763
1922-23					198	1,789	3,075	2,702	2, 332
New York:				36	733	1.052	2,228	1,043	478
1918-19				80	60%	1, 169	$\frac{2,067}{2,920}$	1 265	875
1919-20				117 53	752 336	516 999	2,920	2.071	982
1920-21				203	1,360	2, 121	2,363	2,636 1,946	1,009 1,356
New York: 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23. New Jusey:				93	815	1,660	1,914 3,393	2, 566	1,706
1922-23 New Jusey: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23				112	4 000	3,919	1,979	563	no
1917-18				303	4, 669 3, 075	1. 0-11	305	223	76 110
1919–20				618	4,971	1, 641 3, 292 6, 232	970	410	56
1920-21				1,567	4,971 5,212 5,851	6, 232	2,717	969	118
1921-22				2,107 2,231	8,387	1,631 4,756	1,972	254 609	49 69
Virginia.				1	, i		., 5.2		
1917-18.		4	4,962	11,487 7,570 7,311	3,026	288	110	207	76
1918-19		1	2, 170 3, 955	7,370	936 330	124 22	16 13	410 119	135 82
1920–21			4,813	للشنديات	1,801	236	123	781	171
Virginia. 1917-18. 1918-19. 1919-20. 1920-21. 1921-22.		400	9,728	7,993	468	59	61	397	86
1922-23		16	8, 143	9, 155	651	7-1	50	221	42
Frortas: 1917-18. 1918-19 1919-20. 1920-21. 1921-22. 1922-23. Wish years:	2 1,472	2,618	190	.1					
1918-19	3 1, 264	2,618 2,950	581	36		2		2	
1919-20	2 48	1,499 2,335	921	42					
1921-22	4 1,775	539	28						
1922-23	5 2, 706	2, 223	115		4		1		
Michigan: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 Wisconsin:			1		16	388	1,572	1,296	598
1918-19					20	328	1.547	2,072 2,329	743
1919-20					50	601	2,687	2,329	1,043
1920-21		,		2	39	577 789	2,687 2,210 3,210	3,116 1,886	1, 253 880
1922-23					76	1,209	2, 194	2,069	1, 165
Wisconsin:	į					1 150			575
Wisconsin: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 Minnesoda:				1	118 134	1,158 2,768	3,707 4,630	1,393 2,464	1,545
1919-20					127	3,250	7,019	2,810	1,567
1920-21					18 76	450 754	3,189 $2,125$	2, 876 719	1,214 626
1922-23					205	1,378	3,614	1, 921	1,510
Minnesota:					1				
1917-18				15 96	1,312	1,918	1,074	1, 145	675 758
1919-20				83	3,099 2,438	4,573 5,359 2,770	4, 623 5, 817	1,733 $1,321$	693
1920-21				64	1,341	2,770	6,870	3,279	934
Minicsofa; 1917-18, 1918-19 1919-20, 1920-21 1921-22 1922-23				508	960	4,869 1,195	9,029	2, 197 2, 428	892 677
Colorado:				300	1,402		7,061	الانقداء وتند	
Colorado: 1917-18. 1918-19 1919-20 1920-21 1921-22 1922-23 All other:					230	1,764 2,673	2, 165 2, 676	1,254	824
1918-19				10	850 631	2,673	2,676 2,720	1,259	452 455
1920-21				15	643	1,939	2,882	1,481	702
1921-22				91	1,010	3, 108	2,699	1,394	917
All other:				74	788	2,358	1,874	1,344	1, 106
1917-18. 1918-19. 1919-20. 1920-21.	. 11	4,213	8,771	3,824	2,735	2,106	5,721	5,014	2,428
1918-19	57	3,055	11,646	5,979	1 2.992	4,487	6.509	4.420	2.573
1919-20	47 39	1 703	5,710	0.000	1 3,350	4,658	7,051 8,968	4,572	2,189
1021-22	4 210	1,703 4,487	11, 646 5, 710 8, 548 5, 542	5, 651 6, 585	4,078 5,805	3,776 8,254	16, 154	4,572 7,886 5,024	2, 189 2, 877 2, 922
1922-23	68	6, 107	9, 502	6, 743	5,668	6, 916	16, 154 11, 295	6,072	2, 954
Totals:	2 1 492	6,835	13 000	15 470	12 010	ı	1		7 190
1918–19	2 1,483 3 1,321 3 781	6.006	14, 702	15, 478 14, 075	11,805	14,292 19,841 22,257	23, 542 24, 902	13,536 15,442	7,120 8,891
1919-20	8 781	6,006 2,226 4,038	13,923 14,702 9,707 14,285	14,075 13,684 15,614	12,910 11,805 13,626	22, 257	24, 902 32, 535 31, 522	15, 442 17, 362	9,532 9,755
1920-21	² 87 7 2,051	4,038	14, 285 15, 298	15,614	13,592	18, 155	31,522	25,075	9,755
10 stars: 1917-18. 1918-19 1919-20. 1920-21. 1921-22. 1922-23.	5 2,774	5, 426 8, 346	15, 298	16,979 18,807	16, 115 18, 224	26,040 24,335	43, 250 34, 864	16,729 19,932	10,496 11,591
And the second s		1 -, - 1	1,	1,,		1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1,		-

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.

⁴ Includes 95 cars in March.

⁵ Includes 1 car in February and 221 cars in March.

Table 165.—Potatocs, white: Monthly and yearly carlot shipments, by States, 1917-18 to 1922-23 1—Continued.

State and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Total.
Maine:								
1917-18	1,808	1,673	2, 020 2, 471 2, 796 2, 495	1,530	825	445	16	14,794
1918–19 1919 -20 1920- 21 1921–22	1, 979	1 1 417	2, 471	2, 281 3, 493 1, 778	1,618 1,208 1,643	1,271	60	19, 026
1919 -20	2, 837 2, 478	1, 171	2,796	3,493	1,208	132		23, 444
1920-21	3,563	2, 006 3, 395	2, 495 4, 105	1,778	1,643	458	18	17, 817 37, 999
		0,000	4, 100	4,839	4,459	1,920	56	37, 999
1917–18. 1918–19. 1919–20 1920–21 1921–22.	913	1,145	1,104	891	413	74		10 110
1918-19	902	687 1, 153	1,012	927	374	116	7	10, 110 10, 089
1019-20	1,298	1, 153	1, 929 2, 317	817	214	15	3	12, 817
1920-21	1,316	1,787	2, 317	2,063	1,429	192	3 3 2	16,502
w Jersey:	2, 119	1, 189	1,812	1,125	425	57	2	18, 929
1917-18	57	84	105	111	0.4	_		
1918-19	27	32	48	41	27 13	7 6		11,709
1919-20	32	2	50	3	5	0		5, 889 10, 409
1919-20 1920-21 1921-22	37	21	109	37	15			17, 147
1921-22	23	55	74	16	2			10, 475
rginıa:							• • • • • • • • • • • • • • • • • • •	•
1917-18	22 83	63	65	101	16	13		20,440 11,929
1918-19	19	43 12	74	54	13			11, 929
1920-21	125	55	11 73	20 200	29			12, 194
1918-19 1918-20 1919-20 1920-21 1921-22	45	51	133	105	39			12, 194 16, 630 19, 565
rida:	1			100	00			19, 505
1917-18	3	5	2					4, 294
1918-19	3							4 830
1919-20								2, 275
1918-19 1919-20 1920-21 1921-22	2							2, 275 3, 351 2, 344
								2,344
1917-18.	458	751	938	1, 326	1,553	531	4	0 431
1918-19	790	592	1, 154	1,725	1, 291	770	30	9, 431 11, 062
1919-20	1,099	1,011	1,714	1, 725 1, 134 2, 174	1 313	26		12, 237
1917-18 1918-19 1919-20 1920-21 1921-22	1,630	990	1,657	2,174	2,632	813	26	12, 237 17, 119 15, 173
consin:	1,497	1,200	2,039	1,532	1,415	720	2	15, 173
1917-18	887	1,461	1 613	1 459	1 011	417	70	12 050
	2,460	1,598	2, 122	1,452 $1,608$	1,011 963	362	10	13, 852 20, 655
1919-20 1920-21 1921-22	2,137 2,337	1,751	1,923	893	344	148	3	21, 975
1920-21	2,337	1,754 1,933	2,385	2, 234	1,592	431	2	18, 661
1921-22	1,358	1,200	1,643 2,122 1,923 2,385 1,964	1, 155	746	255	3	10, 981
nesota: 1917–18	1,261	1,510	1	1 000	20"			
018-10	1,839	1,359	2, 119 2, 365	1,328 1,612	625 1,018	179	16	16, 477
1919-20	1,875	1, 162	1,900	1,027	262	434 117	1	23, 515 22, 058
1920-21	1,875 1,469	1, 162 1, 723	2,542	1, 133	863	214	9	23, 214
1918-19 1919-20 1920-21 1921-22	1,901	1,433	4,466	1,027 1,133 2,579	1,090	243		29, 659
				1	- 1	i		•
1917-18. 1918-19. 1919-20. 1920-21. 1921-22.	1,065	980	1,674	1,537	790	177	2	12, 462
1910-19	1,380	1,083	1,257 431	909	828	270		13, 647
1920, 21	1,278	893	760	527	47 211	3 14		8, 810
1921-22	1,976	1,426	2, 123	1,813	997	185	3	8, 810 11, 345 17, 742
other:	-,		-,	i		200	"	11,124
1917-18	3,081	3, 337 2, 187	2,949	1,936	1,454	414	33	48,027
1918-19	3, 290	2, 187	3, 236	3,496	1,539 299	367	68	55, 901
other: 1917-18. 1918-19. 1919-20. 1920-21. 1921-22.	2,899 3,436	1,645	2,017	880 1	299	51	1	41, 651 57, 379
1920-21	3, 430	2,529	3,701	2,811 4,350	1,147 2,758	225 773	4	57, 379
1921-22	4, 179	3,311	4, 993	4, 550	2,758	773	5	75, 418
1917-18.	9,555	11,009	12,619	10, 212	6,714	2,287	81	161, 596
1918-19	9, 555 12, 753	8, 998	13, 739	12,653	7,657	3, 596	171	176, 552
1917-18. 1918-19. 1919-20.	12, 883	8, 725	13, 739 12, 771 16, 039	8,359 12,957	7,657 2,922	492	8	167, 870
1020 41	14, 106	8, 998 8, 725 11, 970	16, 039	12, 957	9, 561	2,347	62	176, 552 167, 870 199, 165
1921-22	16,663	13, 560	22,009	17, 514	11,931	4, 153	71	238, 285
*	1		1				1	

¹ Shipments as shown in earlots include those by boat reduced to earlot basis.

SWEET POTATOES.

Table 166.—Sweet potatoes: Acreage, production, and value in the United States, 1849-1922.

[See note for Table 173.]

Year.	Acreage.	Aver- age yield per acre.	Produc- tion.	Aver- age farm price per bushel Dec. 1.	Form value Doc. 1	Year.	Acres age	Average Vield Productions, area.		Farm value Doc. 1.
1849 1859 1869 1879 1889 1900 1901 1903 1904 1905 1905 1905 1905 1905 1907 1908	1,000 acres. 557 511 517 532 518 518 551 551 551 505	### Bush-els. 77 5 88 9 81 7 85 2 88 9 92 6 90 2 88 2 92 1	1,000 bushels. 38, 268 42, 095 21, 770 33, 379 41, 593 18, 319 41, 697 45, 314 48, 870 48, 870 49, 918 49, 918 49, 813 55, 352		1,000 dollars. 22,065 24,178 25,720 26,358 28,178 29,424 20,731 31,063 31,558 36,561	1909	1,000 acres, 647 641 605 5-3 625 603 771 919 940 941 941 1,006 1,116	Buch 1,000, bu	Code	11,202 10,261 12,881

¹ Figures adjusted to census basis.

Table 167.—Sweet potatoes: Acreage, production, and total form value, by States, 1920-1922.

			1922.						
State.	Thou	sands of	acres.		etion (the of bushel			ce than	rsis Doc.
	1920	1921	1922 1	1920	1921	1922 1	1920	1921	192 / 1
New Jersey. Pennsylvania Delaware Maryland Virginia	16 2 9 9 42	17 2 9 9	20 2 10 10 46	2,288 276 1,152 1,131 5,331	1,870 218 900 900 4,180	3,500 280 1,720 1,530 6,210	3,546 428 1,152 1,304 5,067	3,179 416 990 1,260 5,225	2,520 311 850 765 5, 103
West Virginia North Carolina South Carolina Georgia Florida	3 99 76 132 30	3 102 83 146 32	3 110 104 152 32	357 10,296 7,980 12,276 2,850	345 10,302 7,8% 12,110 2,720	402 12, 430 9, 568 12, 616 2, 720	536 11,737 9,337 11,908 3,120	621 9,993 7,096 7,518 2,611	563 9,944 6,793 7,696 2,557
Ohio Indiana Illinois Iowa Missouri	3 9 4 13	3 3 9 3 14	3 3 9 4 14	309 360 873 416 1, 430	321 396 900 312 1,400	300 375 855 140 1,330	511 576 1,179 1,025 2,216	571 591 891 516 1,100	486 450 898 616 1,396
Kansas Kentucky Tennessee Alabama	4 18 42 118	18 44 135	4 20 44 142	540 1,890 4,281 11,446	500 1,872 4,400 12,150	416 2,020 4,180 13,490	861 2,835 5,269 11,146	575 2,153 4,180 8,870	437 2,222 3,260 10,118
Mississippi Louisiana Texas Oklahoma	103 80 95 23	107 88 100 27	109 85 105 27	11,330 8,080 9,975 2,645	8,560 8,272 8,200 2,646	11, 445 7, 820 8, 715 2, 052	11,890 7,511 12,968 3,191	6,334 5,377 6,970 2,805	7,897 4,770 7,408 2,421
Arkansas New Mexico Arizona California	49 1 1 8	54 1 1 8	47 1 2 8	5,145 118 125 1,016	5,670 120 125 960	3,760 120 300 880	5, 402 260 288 1,626	4,649 312 228 1,200	3,346 240 525 590
United States	992	1,066	1,116	103,925	98,654	109,534	117,831	86,891	81,492

² Preliminary estimate.

SWEET POTATOES—Continued.

Table 168.—Sweet potatoes: Condition of crop, United States, on 1st of months named, 1902-1922

Yen	July.	Aug.	Sept	Oct.	Year	July	Aug	Sept.	Oct	Yeu	July.	Λug	Sept	Oct
1902 1903 1904 1905 1906 1907	90 2 87.3 90.6 90 9 85 9	88 7 88 5 90 1 91 2 85 7	P. ct. 77, 2 91 1 89 9 89, 5 88, 7 85, 7 88, 7	P. ct 79 7 83.7 86 1 88 6 86 0 82 7 85 5	1911	86 5 77 1	85 4 77 7 85 0	P. ct. 81.3 85.9 79.1 84.1 81.4 81.3 87.5	P cf 77 8 80 2 78 1 82 0 80.1 80 7 85 0	1916	P. ct 90 4 81 9 86. 4 90 1 87 2 85 1 88 2		P et 82 7 85 7 74 5 86 0 86 3 80 7 82, 4	P ct 79 2 83 2 77 4 83 9 87 1 77 0 79 0

Table 169.—Sweet polutoes. Forecasts of production, monthly, with preliminary and final estimates

Year.	July	August.	September	October.	November production estimate	Final estimate.
1914. 1015. 1916.	1,600 bushets 49, 474 64,067 73,917	1,000 bushels 49,886 62,779 71,011	1,000 bushels 54,958 65,274 69,320	1,000 bushels 55, 304 64, 800 67, 794	1,000 bush ls 56,030 66,650 67,663	1,900 bushels. 56,574 75,639 70,955
1917	82, 196 92, 119 101, 942 98, 462 112, 623	86, 405 £1, 174 100, 156 100, 683 111, 086	88, 151 81, 016 100, 320 101, 779 110, 164	87, 244 85, 473 99, 413 103, 779 106, 569	84, 727 88, 114 102, 946 105, 673 105, 841	83, 822 87, 921 97, 120 103, 925 98, 654
Average	81, 275 111, 331	83,726	83, 874 108, 372	83, 801	84,706 110,359	84, 327 1 109, 534

¹ Prelimmary estimate

Table 170 —Sweet potatoes: Yield per acre, price per bushel December 1, and value per acre, by States

								аеге	, оу	Nia	us								
Section and Commission of the	7.	ield	per ac	re (bi	ishel	51			F	n m	brice	per l	ushel	(cent	s).			80	e per ere ars).1
State.	Fycar a v er- age, 1915–1922.	1915	1.419	1920	1521	1922	10-7e3r aver- age, 1913-1922.	1913	1914	1915	9161	7161	1918	1919	1920	1921	1922	5-year a v e r - age, 1917-1921.	1922
N.J Pa Del Md Va.	131 132 132 130 123	120 120 130	125 140 138 140 140	138 128 126	110 124 100 100 95	175 140 172 153 155	89	78 90 60 60 70	95 86 70 76	62 70	120 135 81 88 90	160 1 10 120 100 1 10	185 125 150	220 180 110 133 155	100	110	511 50 50	218, 83 213, 02 131 85 156 82 148, 96	155 40 85 00 76 50
W. Va N. C S. C. Ga Fla	107 107 93 93 93	106 110 95 92	115 107 90 92 100	110 101 105 93	115 101 95 85 85	134 113	141 92 97 81 190	100 61 75 68 75	98 65 70 69 80	92 56 65 61 68	126 75 85 81 86	140 105 104 105 115	112 125	210 138 148 110 140	117 97		80 71 61	207, 85 121, 83 145, 05 91, 52 116, 47	90. 10 65 32 50.63
Ohio Ind Ill Iowa Mo	105 118 96 96 100	110	100 105 95 67 104	10.3	107 132 110 101 100	120 125 95 110		106 103 106 150 105	96 90 95 127 96	88888	150 150 125 192 150	175 165 150 210 141	175	215 215 175 250 187	175 160 135 247 155	178 150 90 175 100	120 105 140	183, 99 200, 25 137, 04 198, 14 158, 43	150.00 99 75 154.00
Kans Ky Tenn Ala	111 102 101 94	50 95 98 96	109 105 112 94	135 105 102 97	125 104 100 90	101 101 95 95	141 118 95 83	110 94 80 67	106 77 69 65	100 70 59 57	150 100 87 74	160 125 105 92	136 115	185 160 117 113	160 150 123 100	115 115 95 73	110 78 75	177. 24 116. 02 116. 91 92. 42	74.10 71.25
Miss. La. Tex. Okla.	99 90 88 93	95 75 58 65	105 90 110 110	115	80 94 82 98	105 92 83 76	81 82 111 132	62 70 95 101	63 64 87 89	55 50 70 73	67 66 90 135	97 104 140 160	104 128 175 220	112 115 150 180	105 93 130 132	74 65 85 106	118	90. 83 87. 34 116. 38 148. 14	70.55 89.68
Ark N. Mex. Ariz Calıf	96 121 137 131	90 125 135 170	100 120 150 130	125	105 120 125 120	80 120 150 110	93 190 196 120	30 170 100	77 113 150 87	120 150 80	90 180 185 100	96 205 227 150	138 250 238 150	115 225 250 179	105 220 230 160	82 260 182 125	200 175	108, 23 279, 20 310, 36 218, 28	240.00 262.50

SWEET POTATOES-Continued.

Table 171 .— Sweet potatoes: Farm price, cents per bushel on 1st of each month, 1910-1922.

	1.	1.	Apr. 1.	May 1.	1.	1.	i.	Sept. 1.		Nov :	I.	Aver- age.
1912	76.5 5 0 80 90 3.0 90 0.4 85. 0 2 84	84 4 98.0 88 9	91 2 109. 9 92. 6		115. 0 92. 0	99. 0 112. 2 90. 1	105. 8 107. 8 94. 1	102 6 95 7 94.3	91 8 84 4 83 9	80 9 76. 8 75 7	67 1 75 5 72 6 72 6 73 0	97 0 87.0
1916	9. 0 82. 0 4. 9 71. 1 9. 1 95 7. 2 123. 2 1 143.	77.3 110 7 142 7	78.0 121.0 151.6	80. 5 141. 3 155 0	83. 4 149. 4 148. 8	79. 4 140. 5 134. 3	87. 1 129. 3 144. 7	89. 9 132. 6	83.7 116 1 160.6	63 7 80.6 111 2 146 0 113.9	84.8 110.8 135.2	80. 1 121. 0 143. 0
		119 8	127 1 111. 7	127 2 114 1	216. 6 128. 8 121. 2	125.0 119 0	114.1	135 6 107 6	108.3 94 8	80.7	88. 1 77. 1	118.7 104 8

Table 172.—Potatoes, sweet: Monthly average jobbing prices per bushel at 10 markets, 1920-21 to 1922-23.1

Market and year.	Augus	t.2	Septem	ber.	Octo- ber	Novent- ber	Decem- ber
Addition that your	Range.	Average.	Range.	Average.	age).	(aver- age).	(average).
New York:							
1920-21	\$2.31-\$3.08	\$2.70	\$1.04-\$2.77	\$1.76	\$1.36	\$1.23	\$1.56
1921-22 1922-23	1.23- 2.00	1.51	.88- 2.25 .50- 1.75	1.48 1.00	1. 26 . 70	1.36 .73	1.67 -96
Chicago:							
1920-21 1921-22	2.00- 3.00 1.14- 2.75	2.61 2.01	1.35- 2.85 .80- 2.50	2.05 1.70	1.85 1.57	1.96	2.21
1922-23	1.14- 2.75	2.01	.69-2.75	1.70	1.00	1.48 1.22	1.65 1.26
Philadelphia.							
1920-21	1. 23- 2. 77 1. 15- 1. 50	2. 27 1. 33	. 85- 2. 31 . 92- 1. 36	1.40 1.14	.99 1.02	. 84 1. 03	1.35 1.43
1922-23			.46- 1.00	.68	.57	.41	.68
Pittsburgh:	2.31	2.31	1.31- 3.00	1, 95	1,49	1.38	1.95
1921-22	75 - 2.50	1.55	1.14- 2.25	1.62	1.49	1.50	1.69
1922–23 St. Louis:			.62- 2.25	1, 14	.90	.87	.98
1920-21	1.75- 2.75	2. 25	, 86- 2, 30	1.66	1.16	1.61	1,40
1921-22	1.00- 1.40	1. 23	.50- 1.38	1.09	.94		1.11
1922-23 Cincinnati:			.65- 1.00	.87	.84	. 92	.98
1920-21	1.77- 2.35	1.98	1.00-2.19	1.63	1.31	1.15	1.54
1921-22 1922-23	.90 1.54	1.19	.90- 1.40	1.21	1.11	.98	1.27
St. Paul:			.69- 1.15	.84	.66	.65	.88
1920-21			1.92-4.00	2.86	2, 13	2,03	2.05
1921–22 1922–23			1.50- 3.00 1.00- 2.50	2.05 1.52	1.77 1.24	1.79 1.30	1.89
Minneapolis:						1.00	
1920–21 1921–22	3. 08- 3. 25 2. 15- 3. 25	3. 19 2. 47	1.88- 3.75 1.62- 2.75	2.80	2.03	1.99	2,09
1922-23	2. 1(1- 0, 20	4174	1.00- 2.65	2. 24 1. 76	1.89 1.21	1.85	2.07 1.81
Kansas City: 1920-21.	0.00.00	0.15		(
1920-21	2.00- 2.25 1.50- 1.65	2. 15 1. 56	1.50- 2.00 1.00- 1.50	1.75 1.25	1.01	1.62	1.48 1.21
1922-23			.75- 1.00	. 89	.78	,62	1.04
Washington:3 1920-21	2, 15- 2, 62	2.36	1.08- 2.46	1.63	1.17	1.06	1.09
1921-22.	1. 27- 1. 62	1.40	. 85- 1. 35	1.10	97	. 96	1.09
1922-23			.46~ .69	.62	. 58	.73	.68
	l .	<u> </u>	<u> </u>	1	<u> </u>	<u> </u>	<u> </u>

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

2 Quotations began Aug. 23, 1920 and 1921.

SWEET POTATOES-Continued.

Table 172.—Potatoes, sweet: Monthly average jobbing prices per bushel at 10 markets, 1920-21 to 1922-231—Continued.

Market and year.	January	February	March	Aprı	1.	May	•
Market and year.	(average).	(average).	(average).	Range.	Average.	Range.	Average.
New York:							
1920-21	\$1.76	\$1 82	\$2.40	\$1.50-\$2.75	\$2.32	\$2,00-\$3.00	\$2.73
1921-22	2.02	1.93	1.92	1.50- 2.50	2.27	1.25- 2.50	2. 23
Chicago: 1920-21	2, 20	2 29	2.35	1,75-3,25	0.40	1 7 0 50	
1921-22	1, 81	1, 89	1.93	1.75- 3.25	2.40 1.69	1.75- 2.50 .75- 2.40	2 13 1, 29
Philadelphia:	1.01	1 00	1. 50	1.00- 2 00	1.09	. 15- 2.40	1. 29
1920-21	1.53	1.55	1.74	1, 25- 2, 00	1.66	.80- 1.90	1.63
1921-22	1.51	1.65	1.72	1.00- 1.80	1.42		
Pittsburgh:							
1920-21	1 91	1.73	2.03	1.40- 2.15	1.89	1.50- 2.15	1.92
1921-22	1.88	1.94	1.82	1.25-2.00	1.71	.75- 2.00	1.32
St. Louis: 1920-21	1.68	1,85	1.78	1.50- 2.10	1.80	1.80- 1.90	1.84
1921–22	1.20	1.10	1.18	.70- 1.90	1.04	1.80- 1.90	1.84
Cincinnati	1.20	2.10	2.10	•10- 1.00	1.04		
1920-21	1.71	1.95	1.78	1,31-3,00	1.80	1.35- 2.10	1.89
1921-22	1.21	1.16	1.15	.75- 1.15	1.03	.40- 1.15	. 80
St. Paul:							
1920-21	2.18	2. 26	2.37	2. 25	2.25		
1921-22	2.19	1.88	1.88	1.15-2.25	1.66	1.00- 2.00	1 35
Minneapolis: 1920–21	2, 25	2, 28	2, 41	2, 25	2, 25		1
1921-22	2. 19	1.85	2.08	1, 25- 2, 75	1.76	.25- 2.00	. 95
Kansas City:	2.10	1.00	2.00	1.20- 2.10	1.10	.20- 2.00	. 80
1920-21	1.59	1.64	1.66	1, 75- 2, 25	1.92	1.85- 2.25	2, 01
1921-22	1.30	1.22	1.19	.85- 1.25	1.09	.85- 1.00	. 92
Washington: 2							
1920-21	1.66	1.73	1.72	1.38-2 00	1.59	1.62- 2.50	1 89
1921–22	1.58	1.68	1.68	1.08- 1.50	1.32	1.00- 1.40	1.14

¹ Average prices as shown are based on stock of good merchantable quality and condition only, they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units, or vice versa, in order to obtain comparability.

² Sales direct to retailers.

Table 173.—Potators, sweet: Carlot shipments, by States of origin, 1917-18 to 1921-22.1

Managarintenary Anney distributed tilget distribute to the Anne	-					192	1-22		
State.	1917-18	1918-19	1919-20	1920-21	July- Sept.	Oct Dec.	Jan Mar.	Apr June.	Total, 1921-22.
New Jersey Delaware Maryland Virginia, Eastern Shore Virginia, other North Carolina Georgia. Tennessee Alabama Louisiana Texas Arkansas California All other	1, 955 670 607 5, 476 139 463 152 114 225 51 186 159 314 146	1,785 1,377 441 2,948 76 708 525 545 342 150 329 149 800 365	2, 237 1, 212 1, 179 5, 561 179 750 481 1, 212 401 211 506 355 640 561	2, 948 1, 799 1, 473 4, 899 634 884 966 898 482 647 622 498 708 473	467 8 236 2,348 193 510 78 155 380 157 171 16 251 139	1,004 640 617 2,418 74 198 340 390 110 264 264 171 585 403	618 949 393 5 50 200 560 716 28 283 242 250 150 330	126 131 45 7 18 106 371 2314 99 254 78 141 14 168	2, 215 1, 728 1, 291 4, 778 335 1, 014 1, 349 1, 575 617 958 755 578 1, 000 1, 040
Total	10,657	10, 540	15, 485	17, 931	5,109	7, 478	4,774	2 1, 872	19, 233

 $^{^{\}rm 1}$ Shipments as shown in car lots include those by boat reduced to earlot basis. $^{\rm 2}$ Includes 13 cars in July.

HAY.

Table 174.—Hay: Acreage, production, value, exports, etc., in the United States, 1849-1922.

[See note for Table 153.]

		Aver-		Aver-		Chicag per i	o prices	No.1 ti	imothy lot	Domes-	Imports,
Year.	Acre- age.	age yteld per aere.	Pro- duc- tion.	farm price per ton	Farm value Dec. 1.	Dece	mber.		samg av.	ports, fiscal year be- ginning	fiscal year he- ginning July 1
				Dec. 1.		Low.	High.	Low.	High.	July 1.	
1840	1,000 acres.	Tons.1	18,839	Dolls.	1,000 dollars.	Dolls.	Dolls.	Dolle.	Dolls.	Tons.2	Tong.2
1859 1866-1875 1876-1885 1886-1895	20, 418 31, 124 40, 127	1. 22 1. 24 1 18	19,084 24,929 38,723 47,101	11.51 9.21 8 89	286, 821 352, 577 420, 673	11.56 10.75	12.36 11.75	12.55 11.70	14.22 14.42	5, 711 11, 665 33, 724	82 510 124, 213
1896 1897 1898 1899 1900	40, 978 41, 336 43, 120 43, 127 42, 070	1. 33 1 42 1. 55 1. 33 1. 27	54, 380 58, 878 66, 772 57, 450 53, 231	7. 48 7. 28 6. 63 8 20 9 72	406, 957 428, 919 442, 905 470, 514 517, 399	8,00 8,00 8,00 10,50 11,50	8 50 8 50 8 25 11,50 14,00	8 50 9 50 9 50 10 50 12 50	9, 00 10, 50 10, 50 12, 50 13, 50	61,658 81,827 64,916 72,716 89,364	119, 942 3, 887 19, 873 143, 890 142, 620
1901 1902 1903 1904 1905	42,066 42,962 43,400 44,645 45,991	1. 33 1. 52 1. 57 1. 55 1. 59	55, 819 65, 296 68, 154 69, 192 72, 973	9 91 9, 19 9, 35 8, 91 8, 59	553, 328 599, 781 637, 485 616, 369 627, 023	13, 00 12, 00 10, 00 10, 50 10, 00	13, 50 12, 50 12, 60 14, 50 12, 00	12, 50 13, 50 12, 00 11, 00 11, 50	13, 50 15, 00 15, 00 12, 00 12, 50	153, 131 50, 974 60, 750 66, 557 70 172	48, 415 293, 172 114, 5-8 46, 214 68-510
1906 1907 1908 1909 1910 3	47,891 49,098 51,196 51,041 51,015	1.39 1.47 1.53 1.46 1.36	66, 341 72, 261 78, 440 71, 381 69, 378	10 13 11.78 9.14 10.58 12.14	692, 146 850, 915 716, 614 789, 722 812, 252	15, 50 13-00 11, 50 16, 00 16, 00	18.00 17.50 12.00 17.00 19.00	15 50 13 00 12 00 12 0 12 0 18 50	20 50 14 00 13 00 16 00 25 50	58,602 77,251 64,641 50,007 55,224	61, 116 19, 063 6 712 96, 829 376, 757
1911	48, 240 49, 530 48, 954 49, 145	1. 14 1. 17 1. 31 1. 13	54, 916 72, 691 61, 116 70, 071	14. 29 11. 79 12. 43 11. 12	784, 926 856, 695 797, 077 779, 0 68	20, 00 13, 00 14, 50 15, 00	22, 00 13, 00 18, 00 16, 00	24. 00 14. 00 15. 00 16. 50	28, 00 16, 50 17, 50 17, 50	59, 730 60, 720 50, 151 105, 508	699, 994 156, 323 170, 786 20, 187
1915 1916 1917 1918	51, 108 55, 721 55, 203 55, 755	1.68 1.64 1.51 1.37	85, 920 91, 192 83, 308 76, 660	10 63 11, 22 17, 09 20, 13	913,644 1,022,930 1,423,766 1,543,494	14, 50 15, 00 26, 00 20, 00	16, 50 17, 50 28, 60 31, 00	17, 50 19, 00 20, 00 34, 00	20, 00 22, 00 26, 00 37, 00	178, 336 85, 529 30, 145 28, 898	43, 134 58, 147 410, 738 277, 118
1919 *	56, 888 58, 101 58, 769 61, 208	1.52 1.51 1.40 1.58	86, 359 87, 855 82, 379 96, 687	20.08 17.76 12.11 12.59	1,734,085 1,560,235 997,527 1,217,044	28, 00 26, 00 20, 00 21, 00	32, 00 32, 00 24, 00 22, 00	35, 00 21, 00 26, 00	50, 00 23, 00 28, 00	59, 948 49, 505 54, 679	224, 952 11 2, 66 5 4, 783

¹ 2,000 pounds. ² 2,240 pounds.

Figures adjusted to census basis.
 Preliminary estimate.

HAY-Continued.

Table 175.—Hay: Acreage, production, and total farm value, by States, 1921-22.

The state of the s			Tai	ne hay	•	TOTAL Williams I was a second or with the second or		Wild	, salt, c	or prair	ie hay	**************************************
States.		sands cres.	(thou	iction sands ons).	(tho	I value, Dec. 1 rice usands ollars).		sands cres.	Produ (thou of to	sands	Total basis : pri (thon of dol	Dec 1 ice sands
	1921	19221	1921	19221	1921	19221	1921	19221	1921	13221	1921	19221
Maine. New Hampshire. Vei mont. Massachusetts. Rhode Island.	1, 245 450 900 423 45	400	428 945 529	1, 541 585 1, 273 587 54	20, 790 14, 283	11, 40× 22, 27× 13, 501	15 12 13 12 1	12 13 12	13 10 13 12 1	16 12 14 12 1	214 200 234 180 17	176 144 147 174 18
Connecticut New York New Jersey Pennsylvania Delaware	220 4, 895 300 3, 025 73	203	4, 895 396	6, 818 485 4, 888	88, 110 7, 128 61, 710	96, 134 8, 778 69, 898	9 65 23 23 1	67 22 23	10 65 28 28 1	9 79 31 28 2	170 975 361 336 8	146 790 372 224 20
Maryland Virginia West Virginia North Carolina South Carolina	390 930 725 690 395	768 800	911 870 897	1,037	16, 125 15, 225 17, 761	19, 520 17, 422 20, 384	12 11 42	14 11 45	12 42	13	52 130 114 546 80	182 837
Georgia FloridaOhioIndianaIllinois.			121 4,041 2,549	3,734	2,360 46,932 33,137	2, 572 52, 834 41, 421	6	6 2 22	5 3 22	5 3 25	243 80 30 198 755	85 30 212
Michigan Wisconsin Minnesota Iowa Missouri	2, \$73 3, 064 1, 949 3, 171 3, 200	3, 071 3, 155 1, 988 3, 393 3, 520	4, 136 2, 924	5, 553 3, 141 4, 750	63, 694 20, 146 43, 645	68,302 33,609 47,500	2,033 450	2, 053 432	2,602 522	2,505 492	552 3, 933 16, 913 3, 863 852	3,357 19,288 4,133
North Dakota. South Dakota. Nebraska Kansas Kentucky	961 970	1,02%	1,333 3,427 2,794	3,323 3,537	9, 987 8, 691 23, 989 22, 352 17, 112	13, 125 37, 218 32, 894	2.250	3,675 2,209 897	1,895	3,308 1,877 976	17, 310 15, 400 9, 475 5, 588 264	18, 194 15, 954
Tennessee Alabama Missisappi Louisisana Texas	1,329 836 428 208 639	1,332 760 458 214 671	492 266	1,866 760 550 342 1,074	7, 134 3, 724	12, 920 7, 975 4, 549	25 40 15	25 41 18	22 40 20	45 25	667 264 448 200 2,074	627 297 518 225 2,210
Oklahoma	910 609 1,045 690 1,195	965 585 1,045 710 1,239	658 1,831 1,242	1,448 731 1,986 1,349 2,354	16, 365 9, 315	9, 942 17, 874	129 657 300	133 692 300	240		2, 862 1, 215 4, 524 1, 560 2, 442	4, 984
New Mexico	191 150 490 177	172 165 503 179	450 1,234	310 578 1,459 507	5, 817 5, 850 7, 961 4, 257	6, 045 10, 404 11, 964 5, 983	48 15 106 179	10 112		24 5 155 288	451 165 585 1,791	432 60 852 2, 736
Idaho. Washington. Oregon California	1,02.1 1,008 935 2,129	1,029 987 965 2,108	2, 984 2, 621 2, 288 5, 003	2,572 2,310 1,930 5,059	27, 520	25, 720 37, 422 26, 248 75, 885	131 30 233 167	27	196 45 2 5 6 184	158 31 228 176	882 315 1,152 1,288	1, 185 372 1, 596 1, 584
United States	58 , 76 9	61, 208	82, 379	9 6, 687	997,527	1, 217, 044	15 ,63 2	1 5, 8 4 2	1 5, 391	16, 104	101, 991	114, 635

¹ Preliminary estimate.

Table 176 .- Hay: Stocks on farms May 1, 1910 19 !!.

							,		-
Year.	Production of all hay preceding year (tons).	Per cent on farins May 1.	Tons on farms May 1.	Price per ton May 1.	Year.	Production of all hay preceding year (tons).	Per cent on farms May 1.		Price per ton May 1.
1910 1911 1912 1913 1914 1915	87,216,000 82,529,000 67,071,000 90,734,000 79,179,000 88,686,000 107,263,000	11. 5 12. 4 8. 5 14. 9 12. 2 12. 2 13. 5	10, 053, 000 10, 222, 000 5, 732, 000 13, 523, 000 9, 631, 000 10, 797, 000 14, 452, 000	\$11. 08 11. 69 16 31 10. 42 11. 63 11. 03 11. 27	1917 1918 1919 1920 1921 1922	110, 992, 060 98, 439, 000 91, 139, 000 104, 760, 000 105, 315, 000 97, 770, 000	11. 4 11. 7 9. 4 10. 1 17. 8 11. 2	12,659,000 11,476,000 8,559,000 10,618,000 18,771,000 10,919,000	\$13, 94 17, 97 22 31 24, 22 13, 08 12, 98

Table 177 — Hay: Condition of crop, United States, on 1st of months named, 1909-1922.

Year.	May.	June.	July	August.	Year.	May.	June.	July.	August.
1909	Per ct. 81.5 89.8 84.2 86.0 88.5 90.7 91.2	Per ct. 87 6 86. 1 78. 8 90. 3 87. 5 89 1 89 6	Per ct. 87. 8 80. 2 65. 0 86. 2 79. 5 82. 2 87. 5	Per et. 86, 8 83, 1 67, 6 90, 9 81, 8 86, 7 90, 1	1916	Per et. 88, 2 88, 7 89, 6 94, 3 89, 4 91, 5 90, 1	Per et. 90, 7 85, 1 89, 0 91, 1 88, 9 85, 0 91, 1	Per ct. 93, 5 84, 3 82, 2 91, 1 86, 7 79, 5 89, 0	Per et. 95.7 81.6 82.3 91.0 90.5 82.5 90.8

Table 178 — Hay: Forecasts of production, monthly, with preliminary and final estimates.

Year.	May.	June.	July.	August.	September production estimate.	Final estimate.
1917. 1918. 1919. 1920. 1921.	1,000 tons. 106, 371 107, 550 114, 930 111, 831 107, 784 103, 579	1,000 tons. 102,088 106,962 115,907 111,788 100,977 106,099	1,000 tons. 103, 154 101, 642 115, 701 102, 444 96, 961 106, 780	1,000 tons. 100, 154 99, 341 110, 876 107, 266 97, 073 110, 368	1,600 fons. 91,715 86,254 103,544 106,451 91,619 108,736	1,000 tons. 98, 139 91, 139 101, 760 105, 315 97, 770 1112, 791

¹ Preliminary estimate.

Table 179.—Hay: Yield per acre, price per ton December 1, and value per acre, by States.

		7. 7.1																-ue	per	acre	e, e		states.
	X	1010	per:	acre	(ton:	s). 				F	arm	pric	e pe	r to	on (d	olla:	:s).					а	ue per cre llars).¹
State.	5-year a v er- age, 1918-1922.	1918	1919	1920	1261	1922	10-year aver- age, 1913-1922.	1913	1914		1915	1916	1017	ITAT	1918	1919	1000	1920	1921	1922		5-year a v er - age, 1917-1921.	1922
Me N. H Vt Mass R. I	1.31 1.19	1. 20 1. 30	$1.40 \\ 1.25$	1.35 1.10	1. 25 1 10	1.35 1.20	23. 4. 24. 8	21.1	0 21.	50 20 20 22	0. 00 2. 50	19.0	0 19. 0 20.	90	26. 00 25. 50	27. (32. (00 28.	00	22. 0 27 0 27 0	23.	10 50 50 50 50	18, 55 24, 14 24, 82 34, 08	16. 38 25. 35 24. 50 31. 05
Conn N. Y N. J Pa Del	1.30 1.26 1.51 1.39 1.33	1.30 1.25 1.50 1.41 1.25	1 35 1 40 1 50 1 35 1 28	1 20 1.25 1 65 1.40 1.40	1.30 1.00 1.32 1.20 1.20	1.35 1.40 1.60 1.60 1.50	23 40 16, 92 21 58 17, 85 19, 81	20. 1 15. 3 19. 0 14. 9	0 19. 0 14 (0 19. 0 14. 0 17. (50 20 30, 15 50 15 50 15 50 15	0.00 5.70 0.00 5.60 7.00	18. 5 11. 9 17. 6 13 8 15 9	0 19. 0 15. 0 20 0 17. 0 20.	50 10 00 50	24. 00 20. 40 28. 00 23. 70	30 2 20. 5 29. 1 24. 0	20 30. 50 23. 10 27. 00 23.	00 60 50 50	26.00 18.00 18.00	26. 14. 18. 14. 3	00 3 10 2 10 3 30 2	34. 20 24. 75 36. 76	35 10 19.74 28 96 22 88
Md Va W. Va. N. C S. C	1. 45 1. 22 1. 26 1. 19 . 95	1, 35 1, 35 1, 30 1, 20 1, 10	1. 40' 1. 20 1. 20 1. 02 1. 02	1, 55 1, 30 1 25 1, 05 1, 93	1.35 .98 1.20 1.30	1 62 1 25 1 35 1 40 1 00	19, 00 18, 86 19, 03 19, 35 20, 82	15. 2 15. 5 14 9 16 5 18. 7	0 15. 3 0 17. 2 0 17. 2 0 17. 1	30 16 20 15 20 15 20 15 00 16	5. 20 5. 70 5. 00 5. 60	14. 0 15. 0 14. 5 17. 5 16. 7	0 19. 0 21. 0 21. 0 19. 0 20.	90 2 30 2 10 2 70 2	26 80 23, 00 23, 50 21, 00 26, 10	24. 0 23. 7 25. 6 24. 2	00 25. 0 23. 0 24. 0 23	00 1 50 1 20 1	15 10 17. 70 17. 50	18. 5 16. 6 16. 8	50 3 00 2 30 2 20 2	0 76 26 42 27. 86 24 41	29 97 20 00 22,68 25 48
Fla Ohio Ind Ill	. 95 1. 36 1. 30 1. 32	1. 24 1. 14 1. 40 1. 45 1. 35	. 85 1. 35 1. 22 1. 35	. 81 . 65 1 35 1 29 1. 25	1. 10 1. 27 1. 08 1. 18	. 92 1. 10 1. 45 1. 45 1. 45	19, 05 18, 41 15, 43 15, 37 15, 96	17 9 18. 2 12. 8 14. 1 14. 1	0`16, 2 0 17, 2 0 13, 4 0 14, 1 0 14, 4	20 15 20 16 30 12 0 11 40 10	.00 .70 .00	16, 20 16, 00 10, 60 10, 90 11, 30	0 20 0 18. 0 19. 0 18. 0 20.	00 2 20 1 00 2 70 1 00 2	23 50 18, 50 22 20 9 80 21, 00	25. 3 23 0 21. 8 21. 6 21. 4	0 23 0 19 0 19 0 19 0 19 0 20.	50 1 50 1 30 1 60 1	5 80 9. 50 1 50 3. 00 3. 50	17. 0 18. 5 10. 8 11. 2	00 2 50 1 80 2 20 2 50 2	0 84 8, 52 5 68 4, 22 4, 78	15.64 20 35 15.66 16.24 18.12
Wis Minn Iowa Mo	1. 18 1. 60 1. 62 1. 45 1. 14	1. 40 1. 40 1. 30 . 90	1. 20 1. 77 1. 90 1. 53 1. 35	1. 20 1. 70 1. 70 1. 52 1. 24	1. 00 1. 35 1. 50 1. 48 1. 13	1. 45 1. 76 1. 58 1. 40 1. 10	15, 55 14, 92 9, 73 12, 53 14, 04	13, 10 11, 10 6, 60 9, 60 14, 50	0 12, 0 0 9 3 0 6, 1 0 10 1 0 13, 6	0 12 0 9 0 6 0 8 0 8	. 20 . 90 40 . 70 . 50	10 00 11, 60 7, 00 9, 00 9, 30	17 17. 12 16. 17.	20 2 30 2 10 1 80 1 50 2	3, 50 1, 60 4 10 8, 20 0, 50	23 4 20.3 14.5 17.4 19.5	0 21. 0 20. 0 11 0 16. 0 15.	00 1 40 1 20 24 70	3, 00 5, 40 8, 60 9, 30 9, 80	10. 1 12. 3 10. 7	0 2 0 3 0 1 0 2	3 26 0. 21 9. 60 1. 88	14.64 21.65 16.91 14.00
N. D S. D Nebr Kans Ky	1. 26 1. 65 1. 90 2. 05 1. 19	. 10 . 60 . 40 . 73 . 30	. 00'1 . 75-1 . 86'1 . 46'1 . 15-1	. 25 . 75 . 90 . 20	1. 35 1. 40 2 19 1. 80 1. 05	1.61 1.75 2.14 1 2.17 1 1.25 1	8, 80 7, 94 0, 21 1, 24 7, 90	5, 80 6 50 8, 70 12, 50 16, 50	5. 2 5 7 6. 9 7. 4 16. 0	0 5. 0 5. 0 5. 0 5. 0 12,	. 70 . 30 . 80 . 60 . 50	6. 00 5. 40 7. 10 7. 60 12. 60	11. 3 10. 6 15. 2 16. 6 20. 3	50 1 30 1 20 1 30 1 30 2	4. 60 0. 00 7. 20 9. 40 3. 70	14. 1 13. 5 14. 0 15. 8 25. 4	0 9. 0 8. 0 9. 0 10.	90 50 00 20 1	7. 70 6. 40 7. 00 8. 00 5. 50	7. 5 7. 5 11. 2 9. 3 14. 5	01 01 02 02 02	2. 61 5. 87 1. 37 8. 85 1. 82	12.08 13.12 23.97 20.18 18.12
Tenn I Ala I Miss I La I	1. 26 1 . 89 1. 27 1 1. 40 1 1. 40 1	. 35 1 . 81 . 20 1 . 30 1	. 16 1 . 90 . 35 1 . 44 1 . 60 1	. 28 . 86 . 44 . 40 . 40	. 15 . 90 . 15 . 28 . 38	. 35 I . 00 I . 20 I . 60 I . 60 I	8. 48 6. 43 4. 80 4. 76 3. 77	16, 20 14, 20 13, 50 12, 50 11, 80	17. 0 13. 8 12. 0 12. 0 9. 8	0 13. 0 12. 0 11. 0 10. 0 7.	90 40 00 30 90	5, 00 3, 00 1, 00 1, 00 0, 50	19. 3 16. 2 15. 3 14. 3 20. 0	80 24 80 26 80 18 80 24	4, 00 0, 30 8, 50 1, 20	27. 00 22. 30 20. 50 23. 00	20. ! 19. 8 17. 2 16. 0	50 1. 50 1. 20 1. 00 1.	5, 50 5, 60 4, 50 1, 00	16. 44 17. 00 14. 50 13. 30	0 26	5. 19 5. 06 2. 70 4. 78	22. 14 17. 00 17. 40 21. 28
Okla I	. 53 1 . 18 1 . 62 1 . 84 2 2 08 2	. 20 1 . 30 1 . 60 1 . 10 1 . 22 2	$\begin{array}{c} 82^{'}1 \\ 12 \\ 00 \\ 40 \\ 2 \\ 05 \\ 2 \end{array}$. 60 1 . 16 1 . 80 1 . 00 1 . 15 2	. 52 1 . 08 1 . 80 1 . 80 1	. 50 1 - 25 1 - 90 1 - 90 1 - 90 1	1.41 4.67 2.77 1.60 1.67	10, 40 13, 50 9, 60 6, 70 10, 00	7. 90 12. 90 8. 70 7. 50 7. 40	5. 10. 7. 7.	60 30 50 50 1 80 1 60	9. 00 2. 50 1. 00 2. 00 1. 00	15. 4 15. 4 18. 6 17. 0 16. 0	0 19 0 19 0 19 0 14 0 15). 50). 50). 60). 60). 50	5, 10 20, 50 23, 00 23, 00 8, 50	10. 5 16. 0 12. 0 12. 0 12. 0	50 E 50 12 50 E 50 E	3. 20 3. 50 3. 70 7. 50 5. 90	12, 50 13, 60 9, 00 8, 50 11, 20	20 20 25 25 30	. 96 . 60 . 53 . 60	18. 75 17. 00 17. 10 16. 15 21. 28
Ariz. 3 Utah. 2 Nev. 2	. 24 2 . 26 3 . 48 2 . 54 2	$\begin{array}{c c} 202 \\ 203 \\ 351 \\ 602 \end{array}$. 40 2 . 50 3 . 92 2 . 28 2	$\begin{array}{c} 40 2\\ 10 3\\ 62 2\\ 33 2 \end{array}$	$\begin{array}{c} .401 \\ .003 \\ .622 \\ .672 \end{array}$. 80 1. . 50 1 . 90 1: . 83 1:	5 26 7, 27 2, 12 2, 86 1	2, 10 1, 00 9, 10 1, 00	9, 30 8, 80 7, 70 8, 30	8. 9. 8. 7.	80 1 60 1 00 1 50	4. 00 4. 50 5. 00 9. 60	21, 00 24, 80 15, 00 15, 90	0 20 0 24 0 17 0 19	. 00 1 . 00 2 . 10 2 . 90 1	8. 20 0. 00 1. 90 9. 60	17. 0 29. 0 13. 0 16. 0	0 12 0 13 0 6 0 9	. 70 . 00 . 20 . 00	19, 50 18, 00 8, 20 11, 80	39 72 35 40	. 77 3 . 50 6 . 21 2 . 77 3	35. 10 33. 00 23. 78 33. 39
Idaho . 2 Wash . 2 Oreg 2 Calif 2	. 01 1. . 11 1.	80 1. 25 2.	72 2. 25 2.	25 2 30 2	30 2 35 2	00 13 40 14	. 31	9. 00 3. 50	9. 20 8. 20	9.	50 to 20 1:	3. 80 3. 90 2. 60	20. 00 17. 50 19. 20	25 20 20 20	. 00 1 . 00 1	3.00 9.10 7.20	18, 50 14, 50 20, 00	0 10 0 9 0 11	. 50 . 80 . 00	6, 20 3, 60 5, 00	41. 31. 34.	$\begin{array}{c c} & 84 & 3 \\ & 63 & 2 \\ & 79 & 3 \\ \end{array}$	7. 91 7. 20 6. 00
U. S. I.			1.	3111	*011.	58 14	. 52 1	4. 43	11. 12	10. (3 1.	. 22	17. 09	20.	. 13 2	0.08	17.76	3 12	. 11 1	.2, 59	25.	55 1	9. 88

¹ Based upon farm price Dec. 1.

Table 180.—Wild, salt, and prairie hay: Acreage, production, and value, United States, 1909-1922.

Year.	Acre- age.	Yield per acre.	Produc- tion.	Farin price per ton.	Farm value.	Year.	Acre- age.	Yield per acre.	Produc tion.	Farm price per ton.	Farm value.
1909 ¹ 1910 1911 1912 1913 1914	1,000 acres. 17,186 17,187 17,187 17,427 16,341 16,752 16,796	Tons. 1. 07 . 77 . 71 1. 04 . 92 1. 11 1. 27	1,000 tons. 18,383 13,151 12,155 18,043 15,063 18,615 21,343	Dolls.	1,000 dolls.	1916 1917 1918 1919 1920 1921 1922 *	1,000 acres, 16, 635 16, 212 15, 36 p 17, 150 15, 787 15, 632 15, 842	Tons. 1, 19 . 93 . 91 1, 07 1, 11 . 98 1, 02	1,000 tow. 19,800 15,131 11,479 13,401 17,460 15,591 16,104	Dolls, 7, 00 13, 49 15, 23 16, 59 11, 35 6, 63 7, 12	1,000 dolls. 156,503 204,086 220,487 303,639 193,115 101,991 114,635

¹Census figures

Table 181.—Hay: Farm price per ton, 1st of each month, 1908-1922.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec	Av- er- age.1
1909 1910 1911	9 09 10.45 11.69	9 27 11.34 11.80	9 17 11.61 11 57	9.65 11.53 11.36	10.12 11.08 11.69	10.70 10.81 12.38	10, 50 10 75 13, 19	9 74 10.75 13.83	\$9 15 9.67 11.21 13.63	10 03 11, 12 13, 53	10, 35 11, 20 13, 61	10.50 12.14 14.29	9 93 11, 19 12, 83
1913 1914 1915 1916 1917	11.11	10. 86 11. 67 10. 83 10. 55	10. 61 11 69 10 89 10. 75	10, 43 11, 52 10, 98 10, 85	10, 42 11, 63 11, 03 11, 27	10. 55 11. 64 11. 16 11. 47	10. 47 11. 29 10. 85 11. 10	10, 43 10 76 10, 19 9, 89	11. 21 11. 04 11. 10 9. 95 9. 72 13. 26	11, 45 10, 96 9, 83 9, 65	11.51 10.78 9.98 9.99	12. 13 11. 12 9. 87 10 63	11. 02 11. 28 10. 43 10. 42
1918 1919 1920 1921 1922	18. 09 19 02 20. 55 16. 16	18.88 19.79 21.76 15.24	19, 14 10, 82 22, 31 14, 28	18, 68 20, 52 22, 94 13, 61	17. 97 22. 31 24. 22 13 08	17. 13 23. 30 21. 85 12. 52	16. 07 21. 73 23. 62 12. 61	15, 92 20, 16 20, 59 11, 73	17, 12, 20, 52, 19, 88, 11, 70, 10, 58	15, 45 19, 79 18, 01 11, 36	13, 27 19, 36 17, 45	19, 35 19, 45 16, 70 11, 25	13, 11 20, 39 20, 75 12, 78
Average, 1913- 1922				***************************************					13.52	**********			

¹ Weighted average.

Table 182.—Timothy and clover hay: Farm price per ton, 15th of each month, 1918-1922.

70.4		′.	Fimothy	•	***************************************		MUNICIPALITY NECTOR	Clover.	• •	-944
Date.	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922
Jan. 15. Feb. 15. Mar. 15. Apr. 15. May 15. June 15. July 15. Aug. 15 Sept. 15. Oct. 15. Nov. 15 Dec. 15.	22. 25 22. 53 21. 47 20. 40 18. 55 17. 61 18. 98 20. 85 22. 60	\$23. 48 22. 69 22. 68 24. 74 27. 27 27. 50 24. 22 23. 89 23. 65 23. 04 22. 90 23. 71	\$24. 59 25. 49 26. 75 27. 99 29. 92 30. 05 26. 59 24. 35 24. 15 22. 74 22. 09 21. 22	\$19. 88 18. 30 17. 04 16. 09 15. 44 15. 16 14. 51 15. 01 14. 83 14. 39 14. 22 14. 31	\$14.51 14.77 15.06 15.52 16.10 15.75 14.33 13.61 13.44 13.70 13.93 13.91	\$19, 82 21, 11 21, 37 19, 68 18, 30 16, 54 15, 73 17, 18 19, 27 20, 60 21, 13 21, 26	\$21, 69 21, 11 21, 25 23, 36 25, 33 25, 48 22, 02 21, 58 21, 74 21, 17 21, 61 22, 60	\$23, 78 24, 94 26, 13 26, 93 28, 31 27, 80 24, 62 22, 82 22, 57 21, 29 20, 60 19, 96	\$19, 17 17, 39 16, 41 15, 47 14, 90 14, 52 13, 89 14, 17 14, 37 13, 99 13, 83 14, 17	\$13. 90 14. 10 14. 51 14. 51 14. 90 14. 33 12. 82 12. 66 12. 54 12. 51 12. 67 13. 03

² Preliminary estimate.

HAY-Continued.

Table 183.—Hay: Receipts, in tons, at 12 markets, 1910-11 to 1921-22.1

Crop year.	Baltı- more.	Boston.	Chicago.	Kansas City.	Mil- wankee.	Minne-	New York.
1910-11	68, 589 69, 284	162,420	273, 983	308, 940	38, 313	66, 306	336, 471
1911–12 1912–13	58, 939	164, 196 139, 920	351,630	318, 948	44, 199	63,570	286, 474
1913-14	63, 186	117, 740	274, 769 369, 032	343, 392 285, 288	47, 138 36, 283	37, 290	286, 474 296, 866 317, 543
	<u> </u>		000,002	200, 200	30, 283	38, 280	317, 543
Average 1910-11 to 1913-14.	65, 000	146,069	317, 354	314, 142	41, 483	51,361	309, 338
1914-15.	54,904	115, 161	325,095	398, 604	45,060	45, 513	330,098
1915–16	50, 415	126, 590	273, 181	398, 172	34, 637	45, 376	294 295
1916-17.	50,874	123, 780	237, 932	359, 316	24, 360	35, 652	212, 256
1917-18	64,053 41,870	97, 150	352, 730	419, 964	23, 131	39, 126	294, 295 212, 256 199, 727
1918–19 1919–20	32,650	67,000 58,740	287, 031	386, 460	16,656	28, 457	221,580
1920-21	19, 559	50, 220	225, 050 149, 801	599, 340 337, 169	19, 053	22,601	167, 088
	15,000	50, 220	125,001	557, 109	19, 466	23, 015	150, 338
A verage 1914-15 to 1920-21.	44, 904	91, 234	264, 403	414, 146	26,052	34, 249	225, 069
1921-22	13, 730	51, 250	135, 625	196, 534	19,038	23, 467	98, 904
1921.							
Terly	928	3,030	0 500	12,001	200	000	
July August	1,251	5,790	9,508 14,021	14, 201	600 1,032	883 1,958	9, 474 8, 770
September	974	5, 200	4, 977	11, 143	1,380	1,393	8, 408
October	1,122	5, 200 2, 390	13, 453	14,674	1,695	2,659	9, 979
November	815	7, 450	9, 590	15,637	1,978	1,793	9, 827
December	1, 182	2,110	14,614	13,354	1,920	2,291	7,156
1922.				·	,	,	,
January	915	4,810	13, 206	20,647	1,512	2,351	5,644
February	1,119	3, 160	11, 129	23,619	1, 860	2,455	7, 028
March	1,124	3,510	8, 263	24, 189	1, 776	2,736	5, 881
April	1, 133	3,310	8, 332	19, 272	1, 152	2,071	7, 384
May	1, 559	5,030	14, 840	14,487	2, 124	1,57×	9, 490
June	1,608	5, 160	13, 387	13,310	1, 152 2, 124 2, 009	1, 299	9, 803
Total	13, 730	51, 250	135, 625	196, 534	19,008	23, 167	98, 904
1922.			-				
Tuly 1922.	1, 169	2,070	0.000	14 100	1 040	0 0	
Anonet	1,780	4, 110	9, 906 9, 861	14,190 21,978	1,318 1,140	2, 244 2, 263	10,053
July August September	1,314	3, 890	9, 864	13, 937	1,140	2, 263 1, 921	6,000
October	7,912	3, 390	14, 443	18,975	1, 080 1, 344	2, 193	10, 677 10, 052
November	781	6,080	11,879	31,438	2, 270	2, 245	9, 532
December	1,083	2,790	17,654	25,071	1,520	2, 245 2, 254	6, 795
Total	7,039	22,330	73,607	125, 589	8, 702	13, 120	53, 109
		,	,	,	,	~~, ~~~	1,0, 200

¹ Hay Trade Jorunal, Annual Report of the San Francisco Merchants' Exchange, Minneapolis Chamber of Commerce Report, Minneapolis Daily Market Record.

Table 183.—Hay: Receipts, in tons, at 12 markets, 1910-11 to 1921-22-Contd.

			n water Minterstagesprens			
Crop year.	Peoria.	Phila- delphia.	Pitts- burgh.	St. Louis.	San Fran- cisco.	Total.
1910-11 1911-12 1912-13 1913-14	37, 419 41, 822 38, 131 43, 660	86, 851 96, 484 82, 063 75, 630	119, 685 115, 608 106, 993 103, 466	253, 540 256, 462 222, 998 261, 155	184, 594 147, 483 141, 224 133, 598	1, 937, 111 1, 956, 160 1, 789, 723 1, 844, 861
Average 1910-11 to 1913-14	40, 258	85, 257	111, 438	248, 539	[51,725	1,881,964
1914–15 1915–16 1916–17 1917–18 1918–19 1918–20 1920–21	33, 957 51, 299 48, 870 40, 250 35, 050 33, 306 21, 140	78, 583 84,006 78, 284 61, 618 31, 571 52, 166 40, 057	83, 923 106, 710 92, 202 74, 075 72, 721 63, 680 79, 062	308, 747 232, 628 210, 591 237, 596 213, 043 254, 042 488, 550	161, 750 146, 560 101, 468 82, 460 72, 140 85, 807 75, 272	1, 981, 375 1, 843, 969 1, 578, 585 1, 691, 790 1, 473, 879 1, 613, 823 1, 153, 649
A verage 1914–15 to 1920–21	37, 696 10, 970	60, 911 51, 226	81,768 76,162	235,012 121,104	101, 108 59, 185	1, 619, 582 857, 195
July August September October. November December.	240 690 440 710 980 660	2, 100 2, 520 2, 412 4, 188 3, 900 4, 596	1,848 6,336 5,268 6,288 11,436 4,684	7,525 9,833 9,636 11,590 11,729 9,974	6, 035 12, 938 5, 939 4, 734 3, 674 2, 876	54, 172 79, 340 57, 230 73, 782 78, 809 65, 417
January	890 900 730 1, 240 1, 310 2, 180	5, 136 4, 332 4, 848 4, 114 4, 560 8, 220 51, 226	7, 476 7, 140 7, 260 4, 260 5, 734 8, 432 76, 162	12, 655 11, 127 9, 924 7, 896 9, 136 9, 779	3, 763 3, 791 3, 714 3, 300 4, 482 3, 939	79, 005 78, 560 73, 960 63, 464 74, 330 79, 126
1922.					-	
July. August. September October November December.	2,300 6,380 3,750 3,410 2,700 2,610	4, 044 6, 100 2, 964 3, 924 3, 532 3, 000	4, 122 5, 506 5, 808 5, 008 6, 944 5, 764	5, 978 13, 045 9, 712 9, 368 13, 401 11, 664	4, 547 9, 270 5, 180 3, 159 5, 017 4, 058	61, 971 87, 433 70, 097 76, 178 95, 819 84, 263
Total	21, 150	23, 564	33, 152	63, 168	31, 231	475, 761

HAY-Continued.

Table 184.—Hay: Shipments, in tons, from 8 markets, 1910-11 to 1921-22.1

Crop year.	Baltı- more.	Chi- cago.	Kansas City.	Mıl- waukee.	Minne- apolis.	Peoria.	Pitts- burgh.	St. Louis.	Total.
1910-11 1911-12 1912-13 1913-14	11,864 13,257 8,313 8,995	18,011 49,160 22,681 39,184	93,828 58,896 85,176 78,756	5,958 4,445 3,159 9,718	31,350 28,910 4,820 5,500	10,373 17,222 7,819 16,077	65,800	112, 435 146, 285 105, 533 139, 376	360, 450 393, 595 303, 301 362, 754
Average 1910-11 to 1913-14.	10,607	32 259	79, 164	5,820	17,645	12,873	70,750	125,907	355,025
1914–15. 1915–16. 1916–17. 1917–18. 1918–19. 1919–20. 1920–21.	8,896 9,681 13,657 26,913 20,221 4,118	83,414 55,791 33,439 62,665 52,802 32,637 18,631	67,608 73,668 138,432 222,912 143,040 276,492 153,648	17,306 6,841 5,765 5,293 2,986 5,270 3,863	5,390 4,156 4,351 7,042 4,147 6,925 2,020	19,788 9,676 15,324 10,621 7,650 6,151 7,100	37,512 87,216 55,032 20,536 23,511 26,267 40,480	172,590 90,415 103,990 177,240 119,625 111,695 63,250	412,504 337,444 569,990 533,222 373,982 469,555 288,992
Average 1914-15 to 1920-21	11,926	48, 483 9, 700	153,686 18,153	6,761 10,435	1,862 3,531	10,901 4,520	41,508 31,509	119,829 43,610	397,956 121,458
1921. July August September October November December		184 803 731 550 418 577	4,500 1,548 1,020 2,124 2,328 3,576	360 441 648 742 600 466	140 94 117 137 72 226	110 220 200 390 370 290	680 1,710 930 6,140 5,369 926	3,010 2,780 4,550 2,600 2,460 2,565	8,984 7,596 8,196 12,683 11,617 8,626
1922. January February March April May June.		669 1,022 1,315 1,316 939 1,176	507 780 488 452 332 493	804 756 1,152 1,562 1,440 1,464	206 217 651 893 665 110	350 530 390 370 780 520	3,920 1,984 850 1,780 2,400 4,820	4,320 5,040 5,475 3,275 4,045 3,490	10,776 10,329 10,324 9,648 10,601 12,073
Total		9,700	18,148	10,435	3,531	4,520	31,509	43,610	121,453
July		531 323 725 496 392 526	303 320 250 392 541 619	1,684 1,438 1,171 1,380 1,464 1,176	23 82 73 180 228 297	400 480 120 170 220 180	1,198 4,820 1,305	2,610 3,970 3,465 2,970 5,315 4,320	6,749 11,433 7,109 5,588 8,160 7,118
Total		2,993	2, 425	8,313	883	1,570	7, 323	22,650	46, 157

¹ Hay Trade Journal, Peoria Board of Trade, Annual Report of the Kansas City Board of Trade, Daily Trade Bulletin, Kansas City Grain Market Review, Minneapolis Daily Market Record.

Table 185.—Alfalfa and pravie hay: Farm price per ton, 15th of each month, 1918-1922.

gen, kanting pelantamanjat resse place og ste detallendet		Surpeyor Madelal Communication	Alfalfa.	-	10 to 20			Prairie.		
Date.	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922
Jan. 15 Feb. 15 Mar. 15 Apr. 15	\$21.27 21.38 20.82 18.97	\$20.42 20.91 21.40 22.28	\$24.13 24.41 24.68 24.57	\$14.98 13.55 12.88 11.35	\$10.55 11.04 11.80 12.39	\$15 39 15.74 15.47 14.47	\$16.33 16.55 17.38 18.85	\$17.54 17.36 16.52 16.66	\$10.20 9.46 8.70 8.43	\$7.39 7.67 7.94 8.02
May 15. June 15. July 15. Aug. 15.	17.84 16.74 16.58 18.22	23.32 20.89 20.15 20.72	25.68 24.20 21.70 20.43	10 88 10.64 9 85 9.66	12.28 10.98 10.61 10.54	12.75 12.78 12.51 13.26	20 22 18.71 16 10 16.10	18.06 17.59 15.38 13.74	8 05 8 02 7.67 7.50	8 24 8 40 7.68 7.76
Sept. 15 Oct. 15 Nov. 15	19.72 20.23 20.42	20.89 20.56	19.12 18.03	9.86 9.82 9.67	11.15 11.87	14 35 15 06 15 47	15 90 15 88 16 91	12 93 11.83	7.52 6.78	7.54 7.74

Table 186.—Hay: Extent and causes of yearly crop losses, 1909-1921.

		,			-					. "	10 Marie 20		
Year.	Deficient mois- ture	Excessive moisture.	Floods.	Frost or freeze.	Hail.	Hot winds.	Sterms.	Total climatie.	Plant dise ise.	Insert pests.	Animal pests.	Defetive seed.	Total.
1909 1910 1911 1915 1916	P ct. 10 7 17 4 27 7 3.7 5.5	P. ct. 2 2 1.2 .8 4 9 1 0	P.ct. 0.6 .3 (1) .6 .3	P. ct. 1.2 1.2 .9 1.8 1.1	P. ct. 0.1 .1 .1 .1	P. ct. 0.3 .5 1 9 .1 .2	P. ct. 0 :3 .1 (1) .3 .1	P.ct. 15-7 21-2 31-9 11-9 8-6	P.ct. 0 1 .1 .1 .2	P.et 0 5 5 5 5 5 5 5	P. ct 0 1 .2 .1	P. et. 0 1 1 (1) (1)	P ct. 17.6 23 6 31 7 13 9 9 6
1917	11 5 17 5 9 9 7 2 15.1 12.4	1 3 7 1 0 1.1 .9	2 .3 .2 2 -3	2 9 2.7 1 0 .1 1.4	.2 1 .1 .2 .2 .2	3 .8 .4 .2 .7	.1 .1 .1 .2 .2 .1	16 8 22 7 13 9 10 8 19.5 17.3	.1 .1 .2 .2 .2 .1	.1 .0 1.0 1.0 -0	(1) (1) (1) (1)	(1) (1) .1 .1 0	18 3 21 9 15 5 12 7 21 0

Table 187.—Hay, timothy No. 1, Chicago: Monthly and yearly average price per ton, 1910-11 to 1922-23.

Management of the second of th	1			I		- T					-		Т
Crop year.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mer.	Apr	May.	Juna	Aver- age.
1910-11 1911-12 1912-13 1913-14	19.75	21.50 18.50	20.00 18.50	20. 50 18. 00	21 25 17.00	21.00 15.50	21.7° 15.75	29 75 14 25	21 m	94, 00 15, 50	221 (0% 2% (18) 17 (2) 17, 15	11.25	21, 92 16 42
Average, 1910-11 1913-14	19. 25	19.31	18.38	18.44	18, 19	17. 56	17.75	10.50	16 44	15,51	19,62	13,12	18 20
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	19. 25 16. 00 17. 75 21. 50 34 50	20 25 16, 00 19 25 26, 50 35, 00	19, 00 15, 50 21 00 32, 00 29 00	17.00 16.25 25.00 31.00 28.00	15, 50 16, 25 27, 25 30, 00 29, 50	15, 50 16, 25 27, 00 30, 00 30, 00	16, 25 15, 50 28, 25 29, 50 32, 50	15, 50 15, 75 25, 00 26, 00 34, 00	16, 75 15, 75 28, 60 30, 50 31, 25	15, 75 15, 60 24, 60 33, 50 43, 60	12, 00 13, 75 29, 50 23, 60 35, 50 46, 50 21, 90	15,00 18,75 19,00 13,00 42,75	17.54 16 71 21 01 29 92 25 00
Average, 1914-15 1920-21	23 39	24. 86	23.64	23. 54	23.71	23. 25	23. 59		23, 83	25, 33	26, 16	21, 50	21.06
1921-22 1922-23	24. 40 24. 50		24. 20 20. 90	22, 60 22, 40	22. 90 23. 00	21.90 21.10	22.50	21.80	23,60	26, 80	25.70	23, 60	23, 67

¹ Chicago Board of Trade and Daily Trade Bulletin.

Table 188.—Hay: Monthly average price per ton at Chicago, 1922.

Grade.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Timothy No. 1. Timothy No. 2. Timothy No. 3. Timothy Standard Prairie No. 1. Prairie No. 2. Prairie No. 3. Mixed clover Mixed cars	522. 40 16. 30 15. 20 12. 90 719. 00	13. 80 12. 90 10. 90 717. 00	14. 50 13. 10 11. 20	16. 40 14. 50 13. 50 725. 00	23, 30 18, 90 324, 80 16, 50 14, 90 13, 50 221, 90	20. 20 16. 70 923. 00 15. 50 14. 30 12. 79 17. 30	20, 80 14, 00 123, 30 15, 40 14, 50 12, 50	18, 90 15, 30 422, 30 15, 50 14, 40 12, 40 417, 80	17. 50 14. 40 421. 30 16. 00 14. 20 12. 00 315. 00	18, 20 14, 90 20, 40 17, 80 16, 10 13, 80 17, 40	\$23, 00 19, 10 15, 70 \$20, 40 18, 40 16, 80 13, 70 \$217, 50 16, 80	17. 70 14. 80 219. 50 17. 10 15. 10 13. 60	19.80 16.10 *21.90 16.10 14.70 12.70 18.50

Daily Trade Bulleun.

Table 189.—Hay, Alfalfa No. 1, Kansas City: Monthly and yearly average price per ton, 1910-11 to 1922-23.

Crop year.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	Aver- age.
1910-11 1911-12 1912-13 1913-14	15 13	13 00	14 87	15.00 15.11	15.27 15 11	15 50 15 00	17 72 14.79	18 37 12 86	20 49 14 06	22 73 13 75	19 34 13 28	11 62 10 70	16 71
Av 1910-11 to 1913-14	12 08	13.94	14 62	15 22	15 16	15 18	15. 50	14 85	15 70	13 36	15.36	12.23	14. 76
1914–15. 1915–16. 1916–17. 1917–18. 1918–19. 1919–20. 1920–21.	11 54 11 29 21.18 22 60	27.63	12, 25 13, 58 24, 07 31, 45	13 11 15 68 27, 43 30 14 30 21	18 50 31 10 31.21 33 39	14 35 19 33 32 76 31.01 35 10	14.54 19.81 30.01 32.85 35.75	15 34 20 25 31 33 31.01 34 83	13 92 21 10 27 56 34 56 33 79	14.44 24 33 24 11 37 90 34 10	14 45 24 52 22 64 36 20 35 46	11 42 21 87 20 57 36 43 31 75	13.34 18 64 26 40 32 04
Av 1914–15 to 1920–21	19,02	21.29	29 97	21.87	23 61	24 19	24.29	23 83	23 71	24 43	24 17	21 98	22.78
1921-22 1922-23		19.00 1. 80						19 60	22 10	22.50	22.10	15.40	19 60

¹ Kansas City Daily Price Current and Kansas City Grain Market Review.

Table 190.—Hay, Prairie No. 1, Kansas City: Monthly and yearly average price per ton, 1910-11 to 1922-23.

Crop year.	July.	Aug.	Sept	Oct	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May.	June.	Aver-
1910-11 1911-12 1912-13 1913-14	15 93 8 79	\$10 S2 12.95 7.96 13.62	11 50 8,39	11,60 8 96	12.07 8.91	12.61	13 84 10,45	13 66 9 37	16 70 9 19	20 85 9.55	20.48 9.53	15 16	9 21
Av. 1910-11 to 1913-14	11 54	11.33	11.83	11.98		12 11	12 39	12 12	12 78	14.4 3	14 50	13.54	12 54
1914-15 1915-16 1916-17 1917-18 1918-19	8.50 18.14	8,65 8,06 18,57	8, 63 9 36 18, 06	11 35 9 71 9.47 19.60	10 91 9 51 10 74 25,07	10.98 8.97 11.15 25 47 24.04	8 81 10 57 21 00	9 15 10.92 23 79	8.96 12.92 23 42	9.50 18 68 21 13	9 74 19 74 19 17	8.65 20.57 17.66	
1919-20 1920-21	20.89 17.21	19,98	19 32	19.75 16.45	21, 12	25, 34	21 40	20.68	20 64	21 70	24 02	18.95	21. 15 15. 39
Av. 1914-15 to 1920-21		15.71											
1921-22 1922-23	12 30 12,90	11.40 10.70	11.30 11.00	12.40 11.00	12.00 14.20	11.30 12.70	11 10	10.30	11.50	11.90	12.40	11.90	11.65

¹ Kansas City Daily Price Current and Kansas City Grain Market Review.

Table 191.—Hay: Monthly average price per ton at Kansas City, 1922.1

}	Grade.	Jan.	Feb	Mar.	Apr.	May	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1	Cimothy No. 1 Pimothy No. 2 Pimothy No. 3 Pimothy standard Mixed clover No. 1	11.00 8.70 12.60	11 00	12 30 9 60 13 70	15.20 12 60 16 40	15.90 12.90 17.50	14 50 11 50 16 30	9.40 12.70	\$11 40 11.20 9.10 12.70 12.10	11.50 10.20 13.00	12 60 10 50 14 10	12.90 10.90 11.25	13 60 11 70 14.90	12.80 10.40 14.20
(Mixed clover No. 2 Mixed clover light Nover No. 1 Nover No. 2 Prairie choice	315 OO	13.40 313.00	14.50	15 80	18 50	17 50 9 00	11 40 10.10 7 80	9 80 14 25 12, 10 9, 30 12, 00	13 30 13 00 10 50	15 10 14, 50 12 10	15 10 15 30 13.10	15 60 15 70 13.90	15.10 \$ 13.10 2 10.90
:	Prairie No. 1 Prairie No. 2 Prairie No. 3 Alfalfa choice Alfalfa No. 1	11 10 9 20 7 40 22.90 20.00	8.30 6 20 23 20	9.60 7.70 24.10	10 20 8 50 24 40	10.60 8 20 4 2 1 60	10 30 7.60 17.30	11 20 8 60 18 00	10 70 9 70 8.30 17.90 15.80	9.80 8.40 20.20	13.00 11.30 24.60	12 90 10, 70 25 20	11 20 9 40 21 90	10.50 8.50 22.30
4	Alfalfa No. 2. Alfalfa No. 3. Alfalfa standard Packing hay. Straw	12 10	10.50 17.00 4.80	13.00 19 30 5.40	13.70 19.90 5.80	12 60 20 00 5 70	9.20 14.10 4.80	9.70 13.70 4.50		11.80 16 10 6.60	14.80 20 00 8.40	16.10	14 00 19.80 7.70	12.30 17.70 6.10

Kansas City Grain Market Review.
 Based on 5 quotations.
 Based on 1 quotation.

Table 192.—Hay: Monthly average price per ton at St. Louis, 1932.1

Građe.	Jan.	Feb.	Mar.	Apr.	Мау	June.	July.	Aug.	Sept.	Oet.	Nov.	Dec.	Aver- age.
Timothy No. 1 Timothy No. 2 Timothy standard Mixed clover No. 1 Mixed clover No. 2	17.20 19.50 19.10	15.50 17.90 17.30	19.00 21 40 20.60	21.10 23.60 22.30	21.40 24.20 23.40	18.50 21.60 19.60	16.60 21.60 22.00	15.50 17.70 17.10	14.60 16.80 15.80	16.10 18.80 18.00	16.10	16.60 18.70 18.00	17.40 20.00 19.10
Clover No. 1. Clover No. 2. Alfalfa No. 1. Alfalfa No. 2.	17.80 23.50	5 16.10 23 90	\$ 18.50 26.00	5 21.50 7 26.60	5 18.30 25.80	4 14.00	⁶ 15.00	14.20 0 21.50	13.90 22.40	16.10 8 26.30	17 90 16.30 4 27.00 6 23.00	16.80 727.50	16.50 8 25.00
Alfalfa standard Prairie No. 1 Prairie No. 2	16.30	14.60	15.80	16.50	17.10	16.90	2 16, 60	16.30	15 (8)	* 16.70	8 23,30 8 20,00 8 16,50	17.60	16.60

St. Louis Daily Market Reporter.
 Based on 5 quotations.
 Based on 6 quotations.
 Based on 1 quotation.

Based on 7 quotations.Based on 3 quotations.

<sup>Based on 4 quotations.
Based on 2 quotations.
Based on 7 quotations.
Based on 3 quotations.</sup>

Table 193.—Hay, No. 1 Timothy: Monthly average price per ton at 17 markets, 1922. [Compiled from bureau sources with exception of those indicated in footnotes.]

Market.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept	Oct.	Nov.	Dec.	Aver- age.
Atlanta Baltumore Boston Buffalo Cincinnati Jacksonville Kansas City 2 Memphis Minneapolis 8 New Orleans New York Philadelphia. Pittsburgh Richmond. St. Louis 1 Sayannah	29. 00 20. 60 26. 50 13 70 23. 40 18. 00 28. 50 23. 10 22. 75 25. 25 21. 40	21. 50 28 40 19. 00 21. 80 20. 00 26. 60 14. 00 22. 00 18. 50 26. 00 23. 75 22. 10 21. 25 20. 20	21. 00 27. 50 23. 60 20. 90 27. 00 15 00 22. 75 19. 30 26. 73 28 40 23. 50 23. 40 25. 50 23. 40	21. 00 29. 20 20. 00 26. 80 23. 30 29. 25 17. 80 25. 40 21. 00 29. 00 30. 90 23. 90 24. 10 27. 50 25. 40	32. 25 25. 70 23. 75 30. 30 19. 10 27. 30 21. 40 32 25 25. 10 28. 25 26. 40	31. 75 23 50 23. 60 21. 75 29. 20 17. 90 21. 90 21. 20 31. 00 23. 90 24. 40	20. 00 30. 50 19. 50 24. 50 19. 10 25. 00 14. 70 21. 70 18. 50 23. 20 23. 20 24. 60 22. 60	28 50 19.00 22.00 17.40 24.00 14.40 20.40 17.70 30.10 21.00	18. 50 25. 90 16. 90 23. 00 14. 40 21. 10 18. 40 25. 10 20. 00 19. 10 21. 50 18. 80	25 60 17. 40 24 00 15. 40 21. 40 17. 80 23. 50 26. 40 21. 25 20. 00 20. 75 21. 20	25. 75 23. 00 18 10 24. 50 15. 60 21. 10 18. 60 24. 00 26 25 21. 90 19. 50 23. 00	25. 10 21. 10 18. 20 25. 00 16. 20 22. 10 17. 90 24. 50 26. 20 21. 70 19. 20 22. 50 20. 50	28.30 23.20 19.80 26.20 15.70 22.80 19.00 425.90 28.70

Daily Trade Bulletin
 Kansas City Grain Market Review.

FEED.

Table 194.—Feed: Monthly and yearly average price per ton at Minneapolis, 1916-1922.1 BRAN.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1916	28. 75 32. 50 47. 26 41. 98 25. 93 20. 98	32, 50 42, 83	34, 20 32, 85 38, 09 46, 69 21, 61 23, 85	38. 54 33. 04 39. 78 50. 26 16. 41 22. 29	33. 77 31. 27 37. 39 53. 25 15. 97 20. 91	26, 97 30, 74 34, 20 50, 78 14, 80 15, 35	32, 15 26, 00 37, 41 47, 83 14, 06 15, 31	31. 83 29. 31 40. 38 41. 88 13. 93 14. 06	30. 28 29. 06 37. 49 38 42 12. 97 16. 88	30. 55 28. 45 36. 82 30. 63 12. 15 21. 81	33. 46 27. 80 37. 94 31. 85 14. 79	38. 02 33. 49 41 50 28. 23 20. 63 24. 14	32.09

¹ Compiled from Minneapolis Daily Market Record.

MIDDLINGS.

1916 1917 1918 1919 1920 1921 1922	28, 83 34, 50 48, 84 43, 97 23, 47 20, 51	32, 55 34, 50 44, 14 47, 28 20, 91 24, 76	34, 20 34, 85 38, 56 51, 57 20, 86 25, 54	39, 56 35, 01 40, 74 54, 88 15, 38 23, 21	30.15 33.27 44.81 57.77 15.29 21.20	33. 27 32. 69 42. 90 50. 06 14. 83 17. 13	27. 61 47. 22 54. 22 14. 07 17. 30	31. 00 53. 08 52. 56 14. 64 16. 24	30. 90 51. 46 45. 65 13. 97 18. 07	30. 77 44. 44 30. 62 13. 16 23. 06	30. 09 41. 22 28. 86 15. 35 23. 23	36. 27 43. 13 23. 94 20. 73 23. 71	32. 63 45. 04 45. 62 16. 89 21. 16
7-year average	31. 36	32. 25	32. 26	32, 62	32.65	31.00	31.74	32.97	31.09	29, 36	29.57	30.67	31. 46

² Daily Market Record. ⁴ St. Louis Daily Market Reporter.

FEED-Continued.

Table 195.—Feed: Monthly and yearly average price per ton at New York, 1910-11 to

OIL MEAL.

Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Ang	A ver- uge.
1910-11 1911-12 1912-13 1913-14	40.00	40.75 35.30	40.12	39, 00 32, 75	39.65 32.34	40.17 31 90	39, 75 29, 20	\$34, 12 38 80 27, 86 31, 50	38, 10 28, 12	37.30 28.25	29 10	35, 50 30, 12	38. 81 31 25
Av. 1910-11 to 1913-14	36, 34	36.24	35. 35	31.60	34.68	31.73	33, 92	33, 07	32.87	32.83	33, 28	30.98	34. 32
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	39 70 39 50 53,00 55,00 81 58	38.75 42.28 54.00 56.60 73.80	38, 50 45, 45 51, 42 55, 75 78, 75	40, 50 47, 50 57, 00 56, 50 80, 75	40,60 48,50 58,15 62,15 81,50	39, 50 48, 50 58, 50 63, 35 71, 75	36, 63 48, 33 58, 50 65, 50 70, 40	33, 50 32, 86 47, 60 57, 00 63, 50 62, 50 46, 60	31, 50 49, 44 52, 50 70, 59 60, 00	32 12 49, 25 50, 00 75, 50 60 00	33, 00 51, 08 52, 30 82, 30 60, 00	37, 00 53, 50 51, 00 90, 25 60, 00	30, 72 47, 53 51, 99 66, 53 70, 99
Av. 1914-15 to 1920-21						-		49, 48				1	
1922-23		43.50		(2)								1	

¹ From Annual Statistical Review of New York Produce Exchange and the Oil, Paint, and Drug Reporter.

² Nominal.

Table 196.—Feed: Monthly and yearly price per ton, Memphis, 1910-11 to 1917-23.1 COTTONSEED MEAL (36 PER CENT PROTEIN).

											1	1	
Crop year.	Aug.	Sept.	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aver- uge.
								!					
1910-11	#20 00	e95 75	9 95 38	894 38	e94 48	633 58	\$92.95	202 05	277 UU	6-32 UL	\$24.50	207. 07	20+ 51
1911-12	26. 50	25. 75	24, 63	24.63	24.63	24.38	25 13	96 (9)	97 95	98 00	27. 25	20. 75	5. 61
1912-13	26, 75	25, 63	24.38	24.63	25, 50	25, 75	25, 13	25, 13	26. 75	28, 00	24. 75	20.63	26, 42
1913-14	31.75	27.00	27.13	27.38	27, 25	26. 75	26, 13	26, 75	27.63	27. 70	27.50	27.75	27, 56
Average, 1910-11										******		-	
to 1913-14.	27 75	26 03	25 38	25 26	25 44	95 10	94 91	95 99	90 39	96 01	27,00	97 60	90 IA
00 00 00 00 00 00 00 00 00 00 00 00 00								27.20		2011. 171		27 2	
1914-15	28,00	23. 75	22.75	22.38	23, 50	24, 75	27, 25	26, 88	26, 50	26, (8)	25, 25	25, 13	25, 18
1915-16	25, 63	27. 13	30, 50	82,00	34, 00	32, 25	29.00	28.38	28, 88	27. 75	27. 25	27, 25	29, 17
1916-17	28, 25	30.75	35, 25	39.25	39, 00	37. 50	36, 25	36, 25	38, 50	39, 50	42, 25	44.50	37. 27
1917-18		43.00		49.75	46. 50	46.50	46.50	49.50	45.50	46.50	46, 50	46.50	46.31
1918-19 1919-20		46.50		70.05	04.00	54.00	54.00	51.00	54.00	54.00	59. 13	69.75	53.87
1920-21	55 00	51. 25	30 50	34 13	98 00	90 22	96 50	00. 10	97. 50	90, 13	63, 63 29, 75	24 (0)	173. (33)
2020 222222222222		01. 20	00.00	02.10	217, (7.7	27. (1)	20. (1)	20,11	20.00	20.112	29. (1)	O4. (K)	50,07
Average, 1914-15	l	1	1	1		1							
to 1920-21	43.59	40.77	40.93	43.11	42.04	42.05	40.64	40.42	40.38	41.11	41.97	43, 79	11.73
7007 00	00 44	00.00	-	-	-				ي سيا				-
1921–22 1922–23	36.44		34.50	33.44	34.20	34.75	36, 12	41.12	43,00	43. 75	42.50	39, 80	37.97
1344-40,	34.00	32, 60	01.00	42.80	42.10								
	1	1		1	!	1	l			{	1	ł	·

¹ Figures prior to 1919 from Cotton Oil Press.

FEED-Continued.

Table 197.—Feed: Monthly average price per ton (bagged) at 17 markets, 1922.

COTTONSEED MEAL (36 PER CENT PROTEIN).

Market.	Jan.	Feb.	Mar	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
AtlantaBaltimore.BostonBuffalo.Chicago.	43. 80 43. 80 41. 00	45 25 45, 90	47.00 48.60 47.75	50.60 49.40	52.60	50.00 50 25	44.50 46.40 43.75	41.50 40.50	41.80	47. 25	51.90	51.60	\$40.00 47.70 145.20 44.30
Cincinnati	39.10 37.50 40.90	41.60 38 70 42.75	45.75 43.00	48 50 45.00	49.70 45.50	47. 10	42.90 43.40 43.00	37.60 36.00 39 25	37.10	42. 25 40. 75	47.40 35.40	45. 50 45. 50	43.70 41.00
Memphis New Orleans New York Philadelphia	39.00 43.40	43 (0) 45 20	45, 00	46.00 49.90	51, 50		47. 30	42.80	35.00 42.40	41.00 46.70	47.00	47.00 51.25	39. 20 242. 90 47. 50 46. 60
Pittsburgh Richmond San Francisco Savannah	43.00	43.75	47. 7.	45.00	48.00	50.00	45.70 48.00		48.00	41.50		50.25	45 70 145.30 341.80

¹ Average for 7 months.

Table 198.—Feed: Monthly average price per ton (bagged) at 12 markets, 1922.

LINSEED MEAL.

Market.	Jan	I eb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
								-					
	\$51.60	\$54.00	\$57.40	\$54.40	\$51.9 0	\$52, 50	\$48.60	\$46.10	\$45.90	\$53.60	\$54.00	\$56.90	\$52.50
Buffalo	46. 50	50. 25	54.00	51.75		46, 50	45. 25	43.00	1777723	757	- 55 - 55	- 20 40	148. 20
Chicago	46. 30	49, 60 50, 20	50. 70	52. 10	50.80	47.20	47.00	42 00	49 00	50 20	51.40	55 40	50.00
Cincinnati	48.40	30.20	00.70	50.40	51.00	40.00	47.00	45.00	40.00	30.30	55. 25	00.40	50. 50
Jackson ville				59, 50		59, 10	54, 50	52, 00	50.50		53.00	61.00	155.70
Kansas City	47.60	49, 90	54. 75	54.40	153,75	49.00	50.00	47.60	45.00	51.25	54.00	54.50	51.00
Minneapolis	43, 10	46, 50	52, 10	51, 10	49.00	48, 20	45.00	42 30	39.00	46.75	49.20	50 40	46.90
New York	51.10	54.40	58, 00	55.90	56.75	53, 60	51.20	48.40	46.90	53.60	55.70	56.10	53.50
0			}			FO 00	40 77	47 07	42 70	E0 40	E2 40	E4 60	² 50. 40
Omaha Philadelphia	70.70	- 55 - 55	- E- 700	-21-50	54 90	51 60	40.70	47. 20	45. 10	59 00	51 00	36 25	51.90
Pittsburgh	50.00	69 00	56 90	57.00	171.20	50.70	40. 20	46 00	41 50	50 60	51 50	56 50	351.30
San Francisco	55 00	51 70	59 70	40 50	50 70	in. 10	59 00	55 00	51 25	48.00	48.00	50.75	351.40
Ban Flancisco	00.00	174.70	Un. 10	70.00	50.10		02.00	5.7.00	020	1	1	55110	022.00
		1				1	<u> </u>	I	'	I	!		

¹ Average for 7 months.

² Average for 8 months

³ Average for 11 months.

² Average for 8 months.

³ Average for 11 months.

FEED-Continued.

Table 199 .- Oil cake and oil-cake meal: International trade, calendar years 1909-1921.

[The class called here "oil cake and oil-cake meal" includes the edible cake and meal remaining after making oil from such products as cottonseed, flaxseed, peanuts, corn, etc. See "General note," Table 161.]

	Average,	1909-1913.	19 da 19	919	19	920	19)21
Country.	Imports	Exports	Imports	Exports.	Imports.	Exports.	Imports	Exports.
PRINCIPAL EXPORT- ING COUNTRIES. Argentina. Austria-Hungary. British India. Canada. China. Egypt. France. Italy. Mexico. Russia. United States.	1, 262 7, 752 2 174 288, 968 10, 550	1,000 pounds 42,587 124,873 268,648 51,370 147,468 161,624 476,863 55,115 33,764 1,453,413	1,000 pounds. 2,192 12,312 15,601 99	41, 222 281, 651 148, 246	1,000 pounds. 16,528 4,331 14,060 60 16,057 69 228,853	1,000 pounds 49,055 14,281 258,686 19,260 195,959 181,782 97,001 78,100	1,000 pounds. 11,921 3,299 13,201 42,833 1,614	217, 258 205, 894
PRINCIPAL IMPORTING COUNTRIES.		1, 101, 124	112,400	1,001,220	220,000	1 0002	(1,0	2,200,101
Japan Netherlands Norway Swoden Switzerland United Kingdom Other countries	543, 648 1, 002, 329 2, 509 25, 333 1, 686, 416 189, 868 707, 116 55, 112 346, 755 69, 352 790, 865 30, 320	155, 373 15, 777 13, 242 2, 125 525, 108 219, 819 2, 889 1, 535 1, 443 161, 798 62, 610	39, 209 292, 103 257 69, 631 295, 673 223, 859 45, 341 151, 736 91, 795 601, 604 9, 035	76, 802 1 119, 322 11, 948 13, 460 11, 359 59, 242	51, 927 569, 272 365 22, 031 111, 101 307, 347 197, 312 29, 987 137, 263 53, 923 460, 766 31, 675	-	266, 307 937, 633 241 18, 114 267, 444 512, 464 68, 331 161, 753 90, 234 712, 333 28, 086	69, 624 6 2, 107 76, 368 83, 907
Total	5, 812, 002	5,681,538	1, 962, 856	2, 323, 421	2, 242, 929	2,110,038	3, 216, 217	2,611,259

¹ Austria only.

CLOVER AND TIMOTHY SEED.

Table 200.—Clover seed: Acreage, production, and value, by States, 1921-22, and totals, 1916-1922.

State and year.		ands of	per	ge yield acre hels).	(thous	nction ands of iels).	price pe	ze farm i bushel . 15.	basis Da	value, e I price ands of ars).
	1921	1922 1	1921	1922	1921	1922 '	1921	1922	1921	1922 1
New York Pennsylvania Ohio Indiana Illimois Michigan Wisconsin Minnesota Iowa Missouri	9 18 172 57 143 115 98 74 108 17	11 18 206 100 210 150 127 72 132 21	1. 9 1. 4 1. 2 1. 2 1. 4 1. 5 1. 7 2. 1 1. 6	2. 5 1. 4 1. 1 1. 2 1. 5 1. 6 1. 8 2. 1 1. 7	17 25 206 68 200 172 167 155 173 29	28 25 227 120 315 240 229 151 224 36	\$13,00 10,25 10,70 10,30 10,05 9,75 9,90 10,00 9,70 10,55	\$10,00 10,00 10,70 9,80 9,60 10,50 10,20 9,10 10,40 9,00	221 256 2, 204 700 2, 010 1, 677 1, 653 1, 550 1, 678 306	280 250 2,429 1,176 3,024 2,520 2,336 1,419 2,330 324
Nebraska Kansas Kentucky Tennessee	9 3 18 4	8 4 21 5	2.2 2.3 1.9 1.7	2.7 1.5 2.2 1.8	20 7 34 7	22 6 46 9	9, 00 9, 00 10, 00 11, 00	10, 00 8, 00 10, 70 11, 00	180 63 340 77	220 48 492 99
Mississippi Idalio Oregon	18 18 8	20 16 5	8. 0 5. 0 3. 0	6.0 4.5 1.0	144 90 24	120 72 5	17. 50 9. 75 9. 00	10, 00 9, 70 12, 00	2, 520 878 216	1,200 698 60
Total	889	1, 126	1.7	1.7	1,538	1,875	10.75	10.08	16, 529	18,905
1920. 1919. 1918. 1917.	1, 08 94 82 83	12 20 21	1. 1. 1.	8 6 5 8 6	1,	944 484 197 488	26 19	. 95 . 75 . 80 . 84	39 23	227 700 705 107

² Three-year average.

 $\begin{array}{ll} {\bf Table~201.--Clover~sced} \cdot \ Forceasts \ of \ production, \ monthly, \ with \ preliminary \ and \ final \\ estimates. \end{array}$

Year.	Septem- ber.	October.	November production estimate.	Final estimate.
1917. 1918. 1919. 1920. 1921. 1922.	1,000 bushels. 1,179 1,404 994 1,452 1,315 1,905	1,000 bushels. 1,078 1,383 1,015 1,576 1,360 2,033	1,000 bushels. 1,356 1,248 967 1,593 1,214 1,865	1,000 bushels. 1,488 1,197 1,484 1,944 1,538 11,875

¹ Preliminary estimate.

Table 202.—Clover seed: Farm price per bushel, 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug	Sept	Oct	Nov.	Dec.	Aver- age.
1910	\$8. 26 8 27 10. 89 9. 41 7. 99	8.37	8. 56 12. 89 10. 42	12 91 11.00	8.74 12.53 10.71	11 69 9.77	8.83 10 64	9.65 9.80 9.37	10. 19 9 39 7. 31	10 33 9.37 7.00	10.37 9.06 7.33	10. 62 9. 00 7. 70	9. 29 10. 87 9. 18
1915	8. 51 10. 27 9. 60 11. 48	8. 60 10. 47 9. 87 16. 46	10.76 10.32	10 58 10.41	9. 98 10. 40	9 47 10. 29	9. 15 10. 50	9.12 10.53	8 65 10 89	8.54 11.92	9. 20 12. 91	9.40 13.53	9.63 10.93
1919. 1920. 1921. 1922.	21, 55 28, 06 10 82 10 69	31.21	31.88 10.98	32 23 10.80	29.84 10.71	23. 37 26. 21 10 20 11. 60	25. 52 10 00	24.33 19.97 10 37 9.88	17.77 10.25	10.21	11.64 10.09	27. 63 10. 28 10. 38 10. 88	23. 15 10. 45
Average, 1913- 1922	13. 14	13.92	11.42	14 72	14. 16	13 26	13.00	12.55	12.33	12 39	12.62	12.86	13. 28

Table 203.—Timothy seed: Farm price per bushel, 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1910	\$4. 12 6. 99 1. 79		7.33		7.16	6.68	5.96	3.20	\$3 77 6.65 2.09 2.13	1.95	6.90 1.82	6.72 1.79	\$5.70 4.96
1914	2.07 2.63 3.05 2.44	2. 12 2. 66 3. 19 2. 46	2.30 2.78 3.28	2. 28 2. 69 3. 51 2. 76	2.38 2.75 3.33	2. 23 2. 65 3. 26 3. 09	2.32 2.57	2. 43 2. 56	2.46 2.62 2.22 3.31	2.34 2.72 2.27 3.61	2.34 2.91 2.25	2.18 2.86 2.31	2.29 2.70 2.84
1918 1919 1920	3.57 4.34 5.35	3, 78 4, 51 5, 62	3.84 4.54 5.61	3.74 4.69 5.63	3.84 5.05 5.61	3.56	3.67 4.49	3.87 4.58 4.44 2.71	3.79	4. 78 3. 25 2. 70	4. 26	4. 21 4. 98 3. 16 2. 57	3.85 4.65 4.62
1921 1922 Average, 1913- 1922-	3.04 2.70 3.10	2.75 2.82 3.17	2, 97 2, 95 3, 27	2. 84 3. 11 3. 30	3.21	2.81	2. 53	2. 20	2.28	2.48	2. 49	2.69	2.69

Table 204.—Field seeds: Average price per 100 pounds, paid to growers for crops of 1918 to 1921.

[Weighted average price based on reports received annually from seed sluppers.]

ALFALFA SEED.														
State or State sub- division.	1918	1919	1920	1921	State or State sub- division.	1918	1919	1920	1921					
Southern Auzona California Colorado Southern Idaho Northeastern Kansas Northwestern Kansas Southeastern Kansas Southwestern Kansas	15.50 16.00 16.50 14.10 13.20 13.80	\$35.50 30 00 27 00 31.65 25.05 26 75 28 30 26.60	\$17. 00 15. 90 13 00 11. 80 13. 60 14. 25 16 40 14. 70	\$14.35 14.00 11.85 12.00 11.10 10.65 13.60 11.35	Montana. Nebiaska. Eastein New Mexico. Western Oklahoma. Western Oregon. South Dakota. Western Toxas. Northern Utah.	14. 25 13. 00 13. 50 17. 00 16. 75 14. 50	\$26 00 26,00 27,50 22,30 28,70 31,45 23,50 33,50	\$17 00 15 80 14.00 12 85 18.00 18.75 20.65 16.00	\$17, 85 10, 10 10, 89 11, 20 13, 00 13, 20 14, 75 11, 75					
			ALSIE	E CLC	OVER SEED									
Southern Idaho Northern Illinois Northern Indiana Iowa Southern Michigan Minnesota	26. 00 24. 85 25. 00 26. 15	\$40, 15 39, 60 41, 70 40, 35 44, 90 39, 25	\$22 00 22.05 21.75 19.95 20.90 19.25	\$14.50 14.65 14.80 15.15 13.50 13.65	Western New York Northwestern Ohio. Western Oregon. Northeastern Wis- consin. Southeastern Wis- consin.	25. 25 29. 50 25. 00	\$39 20 40.80 40.45 40.25 41.20	\$21, 10 22, 30 23 50 18, 95 20, 20	\$14, 50 13, 30 13, 65 14, 30 14, 20					
RED CLOVER SEED.														
Idaho Northern Illinois Central Illinois Northern Indiana Central Indiana Southern Indiana Northeastern Iowa Southeastern Iowa Southwestern Iowa Southwestern Iowa Southeastern Iowa Southern Michigan Minnesota	32 25 33.05 33.20 29.30 31.75 31.50 32.25 30.00 34.29	\$45.60 43.30 43.70 45.50 45.50 42.50 42.10 40.50 42.70 40.50 43.10	\$13.95 18 70 18.40 19.10 18.50 16 05 17.80 18 30 17.25 15.65 17.10 16.75	\$15. 10 16. 30 16. 55 17. 00 16. 55 16. 45 16. 45 15. 40 15. 30 16. 60 15. 50	Missouri. Nebraska Northwestern Ohio. Western Oregon. Washington. Northeastern Wisconsin. Southeastern Wisconsin. Southwestern Wisconsin.	30.00 33.65 35.50 33.00	\$39. 25 41. 25 44. 40 47. 50 45. 00 43. 80 45. 60 43. 55	\$15.85 14.65 19.05 22.35 18.00 16.30 18.40	\$16. 05 15. 35 17. 20 15. 30 15. 25 16. 65 17. 55 16. 85					
			SWEE	T CLO	VER SEED.									
Colorado ldaho Illinois Kansas Minnesota Montana	18.00 25.00 16.40	\$21.60 24.75 24.00 23.50 21.00 23.25	\$9.90 10.00 16.39 8.15 8.09 11.50	\$4. 25 6. 50 10. 15 5. 10 4. 50 5. 00	Nebraska North Dakota Oklahoma South Dakota Utah	18,00 20,00 17,00	\$25, 00 23, 00 22, 00 21, 00 26, 00	\$12.50 9.60 9.00 9.50 8.50	\$6.55 4.40 5.00 5.00 3.00					
Southern Idaho Northern Illinois Central Illinois Southern Illinois	8.35 8.55	9.85	\$5. 25 6. 50 6. 30 6. 75	\$4. 10 4. 50 4. 85 4. 95	Northeastern Missouri Northwestern Mis- souri Southwestern Mis-	9, 35	ľ	\$5.75 5.50	\$4.30 3.95					

		1		1	1	······································		,	
Southern Idaho	\$9.15	\$11.25	\$5, 25	\$4.10	Northeastern Missouri	\$8, 40	\$10, 55	\$5.75	\$4.30
Northern Illinois	8.35	9.85	6.50	4.50	Northwestern Mis-	407 40	4.5.00	. 40	44.20
Central Illinois		10.50	6.30	4.85	souri	9.35	10,60	5,50	3, 95
Southern Illinois		10.15	6.75	4.95	Southwestern Mis-				
Indiana	9.45	10.75	6.25	4.70	souri	10.00	10.35	4,55	3.70
Northeastern Iowa		10.10	5.40	4.20	Nebraska.	9.85	9.60	5.50	5.50
Northwestern Iowa	8.00	9.76	5.90	4.15	North Dakota	7.65	9.35	5.80	5.20
Southeastern Iowa		10.60	6.05	4.50	Northeastern Ohio	9. 20	11 05	6.65	4.85
Southwestern Iowa	8.80	10.65	5.50	4.10	Northwestern Ohio	8.80	10.70	5.85	4.70
Kansas	8.50	10.00	5. 25	5.60	Northeastern South		i		
Northwestern Minne-	~ ~~				Dakota	7.60	9 55	5.05	4.45
sota	8.00	9.56	5.10	4.35	Southeastern South				
East central Minne-					Dakota	7.90	9.95	5.65	4.05
sota.	8.05	9.65	5.75	4.40	Wisconsin	8. 25	10.00	5,90	4.80
Southern Minnesota	7.80	9.70	5.50	4.45			1		
West central Minne-	0 15	0.00	- 0-	4			j		
sota	8. 15	9.90	5. 25	4.75					
		t :		i i	•		•	'	

Table 205 .- Forage plant seed. Imports into United States, 1911 to 1921.1

Kind of seed			~~~	For	fiscat ye	eats end	ing Jun	e 30—			
NIMA OF SOCI	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Alfalfa Canada bluegrass. Kentucky bluegrass. Kentucky bluegrass. Awnless brome grass Alsake clover. Crimson clover. Red clover. Whate clover. Biennial white sweet clover. Biennial yellow sweet clover. Clover mixtures. Grass mixtures.	786 25 165 1,524 3,529 6,143 473	1,000 lbs. 3,394 306 1 6 1,324 3,107 19,674 543 23	1,000 lbs. 6,104 791 5 75 766 5,377 5,333 979 33	1,000 lbs. 5,203 567 3 1139 2,688 8,534 5,921 640 42 243	1,000 lbs. 6,930 1,043 1,778 11,690 8,932 373 194 201	1,000 lbs. 3,252 698 1 (4) 1,113 4,504 32,509 149 (3)	1,000 lbs. 3,170 495 1 4,329 5,776 5,344 158 195 9 26 124	1,000 lbs. 45 1,229 5 3,528 1,603 768 53 71		1,000 lbs. 18,831 552 169 5,648 10,053 19,268 189 2,215 202 265 3	t,000 lbs. 942 1,148
Spring vetch and oats mixtures Meadow fescue. Broom-corn millet. Foxtail millet. Orchard grass Rupe. Redtop. Perennial rye grass Italian rye grass Timothy. Harry vetch. Spring vetch.	482 548 1,516	3,376 276 137 1,266 1,626 321 378 646 531	1, 194 291 119 1, 194 1, 117 345 40 1, 948 1, 390	1,520 523 1,939 2,981 1,429 311 23 2,477 682	1,305 338 701 3,966 1,342 485 18 466 221	1, 102 118 754 4, 019 1, 510 383 119 68 62	786 260 1,286 2,286 2,286 1,668 481 4 296 30	1,584 9 58 11,316 1,584 606 22 231 118	138 177 639 831 208 155 257 435	3 225 146 2,771 5,766 7 1,958 980 37 1,220 1,048	4,245 (4) 1,523 577 391 1,387 542

¹ Imports of all seeds up to and including the fiscal year 1913, also of perennial and Italian rye grass and harry vetch up to and including 1917, and sweet clover for all years, are based on information furnished by U. S. Customs Service. All other figures represent imports of seed permitted entry under the seed importation act.

² Preliminary.

³ Figures missing.

⁴ Less than 500 pounds.

Table 206.—Clover seed: Monthly and yearly receipts and shipments, Chicago, 1910-11 to 1922-23.1

RECEIPTS.

Season.	Sept.	Oet.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Crop year total.
1910-11. 1911-12. 1912-13. 1913-14.	1,000 lbs. 1,340 519 271 188	1,000 lbs. 1,375 198 950 225	1,000 lbs. 865 176 521 939	95 29 5	493	337 545	357 901	1,000 lbs. 378 307 279 412	213 109	194 165	343 41	574 40	3,644 4,610
Average 1910-11 to 1913-14	580	687	625	517	488	456	711	344	224	400	218	516	5, 766
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	789 2,190 1,356 1,346 192 1,539 1,549	596 1,921 1,308 945 1,597 1,816 2,448	1,136 1,953 995 1,149 1,337 1,941 1,033	1,205	660 1,079 1,974 2,840	1,236 1,192 1,688 1,002	1, 123 833 797 1, 175 2, 239	798 217 464	55 294 393 298 88 7 418	307 108 200 319	48 53 2 22 271 195 84	602 135 798 213	9,778 12,067 9,862 8,371 10,044 16,037 19,008
Average 1914-15 to 1920-21	1,280	1,519	1, 364	1,285	1,724	1,831	1, 581	764	222	133	96	368	12, 167
1921-22 1922-23	739 1,368	1,235 1,299	2, 040 1, 470	2,064 1,214	1,585	1,692	2, 448	1,050	352	169	77	997	15, 448

Table 206.—Clover seed: Monthly and yearly receipts and shipments, Chicago, 1910-11 to 1922-23.—Continued.

SHIPMENTS.

Season	Sept	Oct.	Nov.	Dec.	Jan.	Feb	Mar.	Apr.	May	June	July	Aug	Crop vear total.
1910-11 1911-12 1912-13 1913-14	1,000 lbs. 165 51 141 138	111 309	204	1,000 lbs 224 131 372 668	426 502	621 835	420 1,525	363 707	90	48 78	1,000 lbs. 12 144 33 381	1,000 lbs 118 59 65 264	2,684 5,519
Average 1910-11 to 1913-14	124	189	394	349	572	928	1,010	516	231	120	142	126	4,701
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	309 714 279 423 191 271 107	124 596 602 483 527 386 589	484 1, 506 1, 021 430 1, 447 952 691	1, 665 879 962 1, 144 787 888 769	1, 125 1, 065 908 984 2, 589	1, 438 1, 696 1, 923 1, 139 1, 619	2,027 2,085 1,116 1,109 926	1,481 1,606 182 653 842	246 18 248	13 39 157 4 94 98 167	69 78 309 60 25 118 239	429 167 136 61	7,110
Average 1914–15 to 1920–21	328	472	933	1,014	1,346	1,771	1,665	1,036	295	82	128	216	9, 286
1921–22 1922–23	371 547	781 1,172	691 1, 187	1, 236 1, 169	1,728	2, 167	2,416	1,030	818	147	133	230	11,718

Table 207.—Red clover seed. Monthly and yearly average spot price per 100 pounds, prime contract grade, Chicago, 1910-11 to 1922-23.1

Crop year.	Sept.	Oct	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Aver age.
1910-11 1911-12 1912-13 1913-14	17.56	20.63	20.63 18.05	20.75 18.88	21.81 19.90	23.13 19.88	22 50 19. 25	21.63 21.38	20 55 18 40	20.13 16 00	\$15.75 20.00 15.50 11.15	16.00 14.70	20.66 18.16
Av , 1910–11 to 1913–14	17. 19 18. 40 14. 85 22. 36 35. 00 50. 00	25.16 35.50	15. 00 20. 06 17. 50 26. 81 36. 00 51. 20	15. 59 20. 72 17. 91 27. 45 37. 50 52. 00	15, 84 19, 59 18, 19 31, 40 42, 60 54, 23	15. 29 21. 19 19. 38 34. 35 42. 60 55. 73	14. 30 18. 00 18. 81 33. 72 51. 60 54. 22	17. 78 13. 80 16. 69 17. 90 32. 15 50. 00 44. 96 17. 85	13.50 16.00 18.33 30.51 46.60 35.00	13.50 14.60 18.39 30.45 45.80 35.00	16 35 13.50 14.00 19.08 49.10 35.00 19.00	15. 19 15. 63 20. 33 50. 00 29. 85	14. 82 17. 99 18. 06 29. 44 43 53 45. 86
Av., 1914-15 to 1920-21 1921-22 1922-23	26. 34 18. 01 16. 4	26, 88	26. 80 18. 50	27. 31 18. 50	20, 05	29. 58	29, 83		25.56	25, 25	24. 95 18. 00	25.00	

¹ Compiled from Chicago Board of Trade and The Seed World.

Table 208.—Alsike clover seed: Monthly and yearly average spot price per bushel, Toledo, 1914-15 to 1922-23.

Total and the second se												-	
Crop year.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Aver- age.
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	9. 83 12. 57 25. 30	10. 24 13. 34 18. 17 28. 72 17. 35	10. 72 14. 35 29. 97 17. 70 10. 64	11. 10 14. 46 19. 66 31. 47 16. 96 11. 05	18.70 34.57 16.00	11.62 16.92 35,17	9. 40 11. 51 15. 59 20. 09 35. 71 14. 98	11.56 15.31 25.41 230.89 13.93	9.10 11.50 15.22 24.37 13.50	11.40 12.37 25.52 12.43	9.53 11.62 24.23 23.95	9.88 11.74 25.00 19.24 10.71	\$9.78 11.18 14.28 21.02 28.74 14.71

Table 209.—Timothy seed. Monthly and yearly average spot price per 100 pounds, prime contract grade, Chicago, 1910–11 to 1922–23.

Crop year,	Aug.	Sept	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May.	June	July	Aver- age.
1910-11 1911-12 1912-13 1913-14	\$6 36 14 31 6 13 5 59	15 20 4 81	15.81 4 44	16 00 4 05	16 45 4 13	16 25 4 13	16. 25 3. 88	15 60 3 76	14 50 3 88	13.70 4.16	11.63 4.69	10 25 5 28	4 45
Av. 1910-11 to 1913-14	8 10	8 76	8 77	8 78	9 02	9 08	9. 24	9.14	8 92	8 83	8.38	8 72	8, 81
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	6 31 8 19 7.00 8 25 8 90 11 75 8 89	4 99 8 44 10.00 11 50	8 35 5.43 8 56 10 00 11 25	8 46 5 50 7 82 10 30 11.50	8 73 5 71 7 63 11.00 12 25	8 70 5.55 8 25 11.00 13 62	8.75 5.55 8.94 10 00 14 30	8 55 5.78 8 55 10 50 13 07	8 50 6 81 8 25 11 00 11 76	8.94 8 20 8 41 12.00 12 00	9 20 8 14 7.81 12 00 12 00	8 75 8 01 8 88 12.00 11 85	8 69 6 39 8 32 10 73 12 24
Av. 1914-15 to 1920-21	8 47	8.28	7 99	7 96	8.30	8 68	8.58	8 35	8.60	8 82	8. 81	8 85	8 48
1921–22 1922–23	4 50 4 59				5 53 6 25		6 00	5. 69	5 22	5 19	4 67	4 50	5 14

¹ Compiled from Chicago Board of Trade and the Seed World.

Table 210.—Timothy seed. Monthly and yearly receipts and shipments, Chicago, 1910-11 to 1922-23.

RECEIPTS.

Season.	Aug	Sept	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June	July	Crop year total.
1910-11 1911-12 1912-13 1913-14	1,000 lbs. 1,878 4,451 2,916 3,601	5,829 6,875	1,000 lbs. 3,778 4,011 5,505 4,232	2,649 3,608	1,000 lbs. 1,563 1,120 2,182 2,131	792 2,361	1,000 lbs 1,560 879 3,019 1,763	1,000 lbs. 1,205 868 2,831 4,393	1,000 lbs 368 557 3,964 1,977	1,000 lbs. 106 388 1,509 828	242 1,764	lbs. 87 158 2,647	1,000 lbs. 21,161 21,944 39,181 34,340
Av. 1910-11 to 1913-14	3,212	6,540	4,381	2,855	1,749	1,664	1,805	2,324	1,716	708	877	1,326	29, 157
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	1,201 2,487 3,810 764 7,450	11, 208 9, 894 10, 565 6, 525 3, 198 13, 191 12, 777	3,469 5,578 5,631 5,172 5,175 6,124 9,013	4,039 3,989 2,966 3,242 2,582	2,416 3,051 1,915 1,463 1,643	1, 431 2, 149 2, 006 1, 578 3, 186	2,203 2,478 2,242 2,234 3,381	3,118	1,338	1,039 2,442 1,250 2,398 1,093	403 704 1,117 392 1,348 641 1,249	296 924 677 891 1,135	39,415 31,987 44,479 30,943 29,048 44,882 50,351
Av. 1914-15 to 1920-21	3,420	9,622	5,737	3,534	2,489	2, 249	2,716	3,613	2,099	1,670	836	744	38,729
1921-22 1922-23		6,269 9,600		3, 197 2, 048	2,669 1,050	2,404	2,899	2,827	780	1,215	472	119	38,286
				SH	IPME	NTS.							
1910-11 1911-12 1912-13 1913-14	1,825 2,452 1,951 1,774	5,038 7,504	2,035 $4,373$	4,912	899 688 2,224 1,893	482 3,313	2,109 958 3,152 2,021	1,356 4,426	1,004 761 $4,629$ $1,955$	360 2,229	54 1,521 786	158 1,344	17, 407 16, 393 41, 578 26, 867
Av. 1910-11 to 1913-14	2,000	5,119	2,849	2,384	1,426	1,9⊀4	2,060	3, 128	2,087	909	591	1,024	25, 561
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21	2,056 1,372 2,826 2,605 1,218 2,340 2,233	5,344 7,956 3,887 1,774	5,283 5,363 2,816 2,674 3,142	$\frac{1,511}{3,903}$	3,549 2,485 3,128 1,291 2,688 2,588 1,594	2,565 1,892 2,921 1,720 1,659 4,007 3,810	1,877 2,326 4,082 2,049 3,178 3,737 4,531	3,621 $3,404$	2,623 2,715 4,321 1,459 4,579 1,852 2,708	1,212 2,288 147 1,817 2,497	955 162 779 509 780 735 587	395 729 427 1,253 1,057	28, 467 31, 185 46, 239 23, 581 29, 144 33, 624 33, 433
Av. 1914-15 to 1920-21	2,093	4,883	3,705	2,737	2,475	2,653	3,111	4,572	2,894	1,605	644	867	32, 239
1921–22 1922–23	5,233 3,896	8,567 6,303	3,750 4,580	2,340 3,943	2,846 1,895	2,551	4,108	5, 187	2,129	2,598	336	352	39, 997

ALFALFA SEED.

Table 211 -Alfalfa seed: Farm price per bushel, 15th of each month, 1912-1923.

Year	Jan 15	Feb 15.	Mar. 15.	Apr. 15.	May 15.	June 15.	July 15.	Aug. 15.	Sept. 15.	Oct. 15	Nov. 15.	Dec. 15.	Aver- age.
1912. 1913. 1914. 1915.	\$7.66 6.55 7.61 8.84	6.48 7.86 9.20	7.92 10.02	6 77 8 45 10.39	6.77 8.38 10.70	6.83 8.31 10 10	8, 20 6, 92 8, 51 10, 30	7. 96 6. 81 8 30 9. 33	7. 42 7. 21 7. 94 9. 27	6. 96 7. 29 8. 37 8. 61	6 36 7, 29 8 65 8 30	6. 60 7. 57 8. 88 8. 56	7. 68 6, 92 8 27 9. 47
1917	7 97 10 14 10 07 16,60 9,95 7 39	9. 90 10 48 19 57 9. 01	10.60 10.64 21.43 9 31	11 18 21 80 8 71	10 09 12, 13 22 40 8 97	10 13 11.79 20.42 8.73	9.67 10.88 19.41 7.89	11.34 16.03 8.54	10. 04 12. 34 14. 89 8. 53	9, 91 14 90 13 35 8 33	9, 38 15, 23 12, 25 8, 09	9.65 16.68 10 24 7.63	9. 99 12 30 17 37 8 64
Av , 1913-1922	9 28				10 54	10 15	9. 95	9.46	9 47	9. 47	9 35	9.48	9 94

Table 212.—Alfalfa seed: Monthly and yearly average spot price per 100 pounds, Kansas City, 1910–11 to 1922–23.

Crop year.	July.	Aug.	Sept.	Ī .	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Aver age.
1910-1i 1911-12 1912-13 1913-11	(2) (2) \$10 50 10 00	$^{(2)}_{\$10}$	11.50 9.84	10 48 9.64	10 00 10.00	\$12.88 10 17 10.00 7 75	11.03 9.90	10.90 9.81	10.91 9 88	\$10 45 10,09	10.25	11.71	10 16
Av. 1910-11 to 1913-14			10 73	10 28	10 14	10. 20	10. 45	10. 40	10. 42		9. 95	10 54	
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20 1920-21 Av, 1914-15 to	14 50 25, 00	14 17 17. 58 12. 52 13. 91 17. 70 25. 00	12 63 13. 25 13. 02 20. 00 14. 79	15. 69 11. 23 13. 51 13. 12 23. 50 14. 67	15, 57 10, 50 14, 00 13 45 27, 72 12, 50	10.66 14.00 13.31 30.00 14.00	17 40 10. 62 13. 50 13. 58 30. 00 15. 00	16. 23 11 00 13 50 13. 75 33. 77 14. 62	17 25 11.00 13.50 13.75 20.73 13.25	12 53 17. 25 11 18 14 38 13. 04 25. 00 13 75	12 25 17. 25 11. 80 15. 00 14. 27 25. 00 13. 25	17 25 12.00 12.42 14 21 25.00 12 75	16 28 12.33 13 47 13.53 24.41 15 72
1920-21 1921-22 1922-23	15. 28 12. 75 (²)		12.12	11.50	11.50	15. 49 11. 00 17. 50	11, 12						

¹ Compiled from Kansas City Price Current and the Seed World

GERMINATION AND WEIGHT OF SEEDS.

Table 213.—Average purity and germination tests of best commercial grade of seed and commonly accepted weight per bushel.\(^1\)

Red clover					·/ 1			-
Red clover 99.4 92.4 60 Hungarian millet 97.5 92.4 48-50 Alsike clover 98.3 91.5 60 Japanese millet 98.4 88.9 32-35 White clover 98.9 99.8 60 Broom-corn millet 99.3 92.1 50 Sweet elover (hulled) 98.9 89.6 60 Orange sorgo 97.9 88.5 50 Bur clover (unhulled) 10 Sumae sorge 98.3 90.5 50 Lespedeza 93.9 82.1 25 Sudan grass 98.0 91.1 32 Alfalfa 99.5 91.4 60 Kafir 98.1 91.3 36 Timothy 99.6 93.5 45 Milo 97.7 91.2 56 Redtop 2 93.2 90.5 14 Feterita 97.9 91.1 56 Kentucky bluegrass 3 83.0 78.3 14 Rape 99.2 91.8 50	Kind of seed.			per	Kind of seed.			per
Siberian milet	Alsike clover White clover Crimson clover Sweet elover (hulled) Bur clover (unhulled) Lespedeza. Alfalfa. Timothy. Orchard grass. Kentucky bluegrass * Bermuda grass. Bromus inermis. Meadow fescue Italian rye grass Perennial rye grass Perennial rye grass Hairy vetch. Spring vetch Colden milet	99. 4 94. 3 96. 9 98. 2 98. 9 99. 5 96. 2 86. 9 91. 5 87. 7 97. 9 98. 7 98. 7 98. 7	92. 4 91. 5 90. 8 91. 2 89. 6 82. 1 93. 5 80. 6 78. 3 77. 9 91. 2 83. 5 83. 6 89. 0 92. 3 92. 9	60 60 60 60 60 60 60 45 14 14 14 22–24 24 22-24 60 60	Japanese millet. Broom-corn millet. Amber sorgo. Orange sorgo. Sumae sorgo. Sudan grass. Kafir. Milo. Feterita. Rape. Wheat. Corn (field) 4. Barley. Oats. Bye. Flax. Buckwheat. Cotton. Cowpeas.	97. 5 4 99. 3 97. 9 97. 9 98. 0 98. 1 97. 9 98. 2 97. 9 98. 3 98. 6 97. 8 98. 6 98. 6 98. 6 98. 6 98. 6 98. 6	92. 4 88. 9 92. 1 88. 2 88. 5 91. 1 91. 2 91. 2 91. 4 94. 0 93. 5 95. 0 91. 8 87. 3 92. 7 85. 0	48-50 50 50 50 32 56 56 56 56 60 56 48 48 48-52 30-32

¹ Farmer's Bulletin 1232, Seed Marketing Hints for the Farmer.

² No quotations.

² Fancy recleaned, solid redtop seed weighs 30 to 38 pounds, or more, per measured bushel.

VEGETABLE SEED.

Table 214.—Vegetable seed: Commercial acreage, average yield per acre, and production in the United States, 1917-1922.

COMMERCIAL ACREAGE PLANTED FOR SEED.

Kind of seed.	1917	1918	1919	1920	1921	1922 1
	1,000 pounds	1,000	1,000	1,000	1,000	1,000
Poone durant man	63,524	pounds 70,867	pounds.	pounds.	paunds.	pounds
Beans, dwarf, snapBeans, garden, pole 2	4,029		$48,658 \\ 7,957$	30,059	12,625	33,488
Doot garden, pole "	826	6,297 2,748		11,573 400	3,911 380	4,430
Beet, garden Beet, mangel	20	424	2,666 619	123		633 112
Post curer	4,638	6,014	11,139		(3)	
Beet, sugar	737	974		7,919	3,699 636	1,124
Cabbage			1,978	1,135 528	196	730
Carrot		$\frac{4,622}{176}$	3,465 135	60	196	493
Celery						70
Corn, sweet	12,975	14,759	14, 565	12,024	1,064	7,405
Cucumber		3,053 71	3,582 106	3,598	3,577	4,180
Kale		0 001			39	130
Lettuce		2,291	2,283	2,010	1,185	1,920
Muskmelon		1,671	1,467	1,898	2,223	1,935
Watermelon		10,507	5,508	5,914	6,558	9,480
Onion, seed	3,782	7,260	6,730	2,392	1,108	1,295
Omon, sets		3,818	3,708	3,998	3,225	3,183
Parsley		155	146	186	90	84
Parsnips	137	267	303	111	48	121
Peas, garden	110,129	102,095	104,172	113,844	35,680	54,462
Pepper	686	720	160	431	1,308	671
Pumpkin		1,380	1,156	2,164	905	992
Radish		8,760	10,870	3,396	1,717	2,485
Salsify	131	124	205	52	9	33
Spinach	1,415	4,259	1,139	141	32	655
Spinach. Squash, summer	836	1,004	1,153	1,000	1,128	612
squasn, winter	1,328	2,539	2,912	2,109	1,310	836
romato	3,204	3,832	3,604	2,711	1,296	3,824
Purnip, English	24	936	1,207	239	336	200
Furnip, Swede	21	279	205	136	(3)	90

AVERAGE YIELD PER ACRE.

Kind of seed.	1917	1918	1919	1920	1921	1922 1
Beans, dwarf, snap Beans, garden, pole 2 Beet, garden Beet, sugar Beet, sugar Cabbage Carrot Colery Corn, sweet Cucumber Kale Lettuce Muskmelon Watermelon Onion, seed Onion, sets Parseley Parsnips	Pounds. 233 315 562 1,500 1,994 396 575 333 640 219 278 456 160 71 259 11,859 771 496	Pounds. 412 820 913 677 981 166 460 227 807 179 239 326 117 91 232 12,066 471 625	Pounds. 516 552 697 1,003 699 451 400 902 214 106 298 102 91 389 5,906 767	Pounds. 501 474 295 561 855 5138 541 467 1,970 101 180 292 80 104 629 622 622	Pounds 712 660 474 (3) 966 352 388 460 1,029 136 769 262 262 2301 8,304 311 542	Pounds. 585 920 678 911 935 504 371 1,181 169 341 444 186 127 347 9,802 7024
Watermelon Onion, seed Onion, sets Parsley Parsnips Peas, gurden Pepper Pumpkin Radish Salsify Spinach	71 259 11,850 771 406 444 31 71 176 427 212	91 232 12,066 471	91 389 5,906 767	104 335 11,106 629	112 301 8,304 311	127 347 9,802 524
Squash, summer Squash, winter Tomato Turnip, English Turnip, Swede	70 71	50 80 215 97	152 67 378 600	121 80 142 287	110 62 176	79 62 75 511

¹ Pieliminary.

² Not including lima beans.

³ Not reported for 1921.

VEGETABLE SEED-Continued.

Table 214.—Vegetable seed: Commercial acreage, average yield per acre, and production in the United States, 1917-1922—Continued.

PRODUCTION.

Beans, dwarf, snap. poiunds. poiunds. Beans, garden, pole 2 14,808 26 Beet, garden 464 28 Beet, mangel 30 30 Beet, sugar 5,076 5 Cabbage 292 22 Carrot 1,129 2 Corn, sweet 8,303 11 Cucumber 1,026 5 Kale 5 5 Lettuce 903 Muskmelon 293 Muskmelon 293 Muskmelon 293 Mustermelon 633 0 Onion, seed 980 1 Onion, sees 31,219 40 Parsupy 68 8 Peas, garden 48,888 58 Pepper 21 1 Pumpkin 108 108 Radish 621 1 Salsify 56 5 Spunach 300 1 Squash, winter			1921	1922 1
Beans, dwarf, snap	000 1,000	1,000	1,000	1,000
Beans, garden, pole 2 1, 268 Beet, garden 464 Beet, mangel 30 Beet, mangel 30 Beet, sugar 5,076 Cabbage 292 Carrot 1,129 Celery 28 Corn, sweet 8,303 Locumber 1,026 Kale 5 Lettuce 903 Muskmelon 293 Watermelon 633 Onion, seed 980 Onion, sets 31,219 46 Parsiley Parsups 68 Pens, garden 48,868 Fepper 21 Pumpkin 108 Radish 621 Splingh 56 Spunach 300 Squash, winter 93	nds. pounds	pounds.	pounds.	pounds.
Beans, garden, pole 2 1, 268 Beet, garden 464 Beet, mangel 30 Beet, sugar 5, 076 Cabbage 292 Carrot 1, 129 Celery 28 Corn, sweet 8, 303 Cucumber 1, 026 Kale 5 Lettuee 903 Muskmelon 293 Watermelon 633 Onion, seed 980 Onion, sets 31, 219 Parsley 84 Parsnips 68 Peas, garden 48, 868 Pepper 21 Pumpkin 108 Radish 621 Splasify 56 Spunach 300 Squash, summer 121 Squash, winter 93	, 216 25, 093	15,069	8,985	19,600
Beet, garden 464 2 Beet, mangel 30 Beet, sugar 5,076 5 Cabbage 292 292 Carrot 1,129 2 Celery 28 303 11 Cucumber 1,026 5 Kale 5 5 Lettuce 903 Muskmelon 293 Watermelon 633 0nion, sed 980 1 Onion, sed 980 1 4 4 Parsley 84 8 8 8 8 8 8 8 8 8 9 9 1 1 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1<	166 4,395	5,480	2,582	4,074
Beet, mangel. 30 Beet, sugar. 5,076 Cabbage. 292 Carrot. 1,129 Celery. 28 Corn, sweet. 8,303 Cucumber. 1,026 Kale. 5 Lettuee. 903 Muskmelon. 293 Watermelon. 633 Onion, seed. 980 Onion, sets. 31,249 Parsley. 84 Parsnips. 68 Peas, garden. 48,868 Pepper. 21 Pumpkin. 108 Radish. 621 Salsify. 56 Spinach. 300 Squash, winter. 93	509 1,858	118	180	429
Beet, sugar 5,076 Cabbage 292 Carrot 1,129 2 Celery 28 Corn, sweet 8,303 1 Cucumber 1,026 5 Kale 5 5 Lettuce 903 0 Muskmelon 293 0 Watermelon 633 0 Onion, secd 980 1 Onion, sets 31, 219 40 Parsley 84 88 Pens, garden 48, 868 58 Pepper 21 1 Pumpkin 108 108 Radish 621 1 Salsify 56 5 Spunach 300 1 Squash, summer 121 5 Squash, winter 93	287 621	69	(3)	102
Cabbage 292 Carrot 1,129 2 Celery 28 Corn, sweet 8,303 11 Cucumber 1,026 Kale 5 Lettuce 903 Watermelon 633 Onion, seed 980 1 Onion, sets 31,249 40 Parsley 84 Parsnups 68 Peas, garden 48,868 58 Pepper 21 Pumpkin 108 Radish 621 1 Salsify 56 Spunach 300 1 Squash, winter 93	900 6,700	6.770	3,575	1,056
Carrot 1,129 28 Celery 28 28 Corn, sweet 8,303 11 Cucumber 1,026 1,026 Kale 5 5 Lettuce 903 Muskmelon 293 Watermelon 633 0 Onion, seed 980 1 Onion, sees 31,249 46 Parsley 84 Parsnips 68 Peas, garden 48,868 58 Pepper 21 Pumpkin 108 Radish 621 1 Salsify 56 Spinach 300 1 Squash, summer 121 Squash, winter 93	162 1,383	157	224	368
Celery 28 Corn, sweet 8,303 Corn, sweet 1,026 Kale 5 Lettuce 903 Muskmelon 293 Watermelon 633 Onion, seed 980 1 Omion, sets 31,249 40 Parsley 84 888 Peas, garden 48,868 58 Pepper 21 1 Pumpkin 108 108 Radish 621 1 Salsify 56 5 Spinach 300 1 Squash, summer 121 5 Squash, winter 93 3	125 1,562	291	76	183
Corn, sweet 8,303 11 Cucumber 1,026 1 Kale 5 5 Lettuce 903 5 Muskmelon 293 293 Watermelon 633 0 Onion, seed 980 1 Onion, sets 31,249 40 Parsley 84 88 Parsnips 68 8 Peoper 21 Pumpkin Pumpkin 108 8 Radish 621 1 Salsify 56 5 Spinach 300 1 Squash, summer 121 5 Squash, winter 93	40 54	28	46	33
Cucumber 1,026 Kale 5 Lettuce 903 Muskmelon 293 Muskmelon 633 Onion, seed 980 1 Onion, sets 31,249 46 Parsley 84 888 Pens, garden 48,888 58 Pepper 21 108 Radish 621 1 Salsify 56 5 Spinach 300 1 Squash, summer 121 5 Squash, winter 93 3	917 13,143	12,870	4,183	8,749
Kale 5 Lettuce 903 Muskmelon 293 Watermelon 633 Onion, seed 980 1 Onion, sets 31,249 40 Parsley 84 84 Parsnips 68 8 Peas, garden 48,868 58 Pepper 21 1 Pumpkin 108 108 Radish 621 1 Salsify 56 5 Spunach 300 1 Squash, winter 93	518 766	580	487	707
Lettuce 903 Muskmelon 293 Mustermelon 633 Onion, seed 980 Onion, seets 31, 249 Parsley 54 Parsups 66 Peas, garden 48, 868 Pepper 21 Pumpkin 108 Radish 621 Splasify 56 Spunach 300 Squash, summer 121 Squash, winter 93	17 43	11	30	45
Muskmelon 293 Watermelon 633 Onion, seed 980 1 Onion, sets 31,249 40 Parsley 84 88 Parsnips 68 8 Peas, garden 48,868 58 Pepper 21 1 Pumpkin 108 Radush Radush 621 1 Salsify 56 5 Spinach 300 1 Squash, summer 121 5 Squash, winter 93	747 680	587	310	856
Watermelon 633 Onion, seed 980 1 Onion, sets 31,249 40 Parsley 84 84 Parsnips 68 8 Peas, garden 48,868 58 Pepper 21 108 Radish 621 1 Salsify 56 Spinach 300 1 Squash, summer 121 Squash, winter 93	196 150	169	395	359
Onion, seed 980 1 Onion, sets 31, 249 40 Parsley 84 4 Parsnips 68 88 Pess, garden 48, 868 58 Pepper 21 21 Pumpkin 108 62 62 Radish 621 1 Salsify 56 50 50 1 Squash, summer 121 1 Squash, winter 93	960 500	614	732	1,200
Önion, sets. 31, 249 40 Parsley 84 Parsnips. 68 Peas, garden 48, 86s 58 Pepper. 21 Pumpkin 108 Radish. 621 1 Salsify. 56 Spunach. 300 1 Squash, summer 121 Squash, winter. 93	685 2,618	801	334	450
Parsley 84 Parsnips 68 Peas, garden 48,868 58 Pepper 21 Pumpkin 108 Radish 621 1 Salsify 56 Spinach 300 1 Squash, summer 121 Squash, winter 93	060 91,000	44,402	26,780	
Parsnips 68 Peas, garden 48,868 58 Pepper 21 Pumpkin 108 Radish 621 1 Salsity 56 Spinach 300 1 Squash, summer 121 Squash, winter 93	069 21,900	117	20,700	31, 200
Peas, garden 48,868 58 Pepper 21 Pumpkin 108 Radush 621 1 Salsify 56 Spunach 300 1 Squash, summer 121 Squash, winter 93	167 222	69	26	44
Pepper 21 Pumpkin 108 Radish 621 1 Salsify 56 Spinach 300 1 Squash, summer 121 Squash, winter 93				85
Pumpkin 108 Radush 621 1 Salsify 56 Spunach 300 1 Squash, summer 121 Squash, winter 93	127 47,968	87,310	27, 197	46,588
Radish 621 1 Salsify 56 Spinach 300 1 Squash, summer 121 Squash, winter 93	56 12	27	99	47
Salsify 56 Spunach 300 1 Squash, summer 121 Squash, winter 93	133 110	247	106	119
Spunach 300 1 Squash, summer 121 121 Squash, winter 93 93	935 2,537	614	258	743
Squash, summer 121 Squash, winter 93	31 93	16	3	15
Squash, winter	650 361	101	25	314
	99 223	131	187	114
	128 443	255	144	66
Tomato		218	81	238
Turnip, English	308 243	34	59	15
Turnip, Swede		39	(3)	

¹ Preliminary.

Table 215.—Average wholesale prices per pound of standard varieties of vegetable seeds in United States.

1	1		1920	1921	1922	A verage 1917–1922.
Beans, dwarfsnap \$0.18 Beans, garden, pole 1 14 Beet, garden 90 Beet, mangel 35 Cabbage 1.90 Carrot 1.00 Celery, domestic 15.00 Celery, imported 10.00 Cucumber 54 Lettuce 65 Muskmelon 54 Watermelon 42 Onion seed 1.90 Parsley 35 Parsnup 30 Peas, garden 12 Radish 40 Spinach 60 Squash, summer 65 Squash, winter 55 Sweet corn 20 Turnip, English 35 Turnip, Swede 32	\$0. 26 .24 1. 45 .90 3. 80 1. 75 2. 25 .70 4. 50 .60 .10 .20 .20 .25 .60 .10 .20 .20 .20 .20 .20 .20 .20 .2	\$0. 21 . 23 1. 07 . 68 8. 00 . 1. 85 5. 00 . 54 2. 65 . 1. 00 1. 30 . 75 1. 105 1. 105 1. 105 1. 105 1. 105 1. 105 1. 125	\$0.16 .21 .64 .36 .2.75 .50 .1.60 4.00 .72 .73 .46 1.80 .40 .40 .24 .60 .35 .1.00 .1.10 .15 .65 .1.00	\$0.15 .19 .48 .31 2.40 .50 2.00 4.00 .76 .79 .45 1.60 .35 .19 .20 .100 .13 3.10 .50 .37	\$0.13 .15 .38 .27 2.00 .40 1.60 .81 .76 .46 .46 .50 .35 .10 .20 .75 .80 .80 .81 .50 .20 .81 .83 .83 .83 .83 .83 .83 .83 .83	\$0.18

¹ Not including lima beans.

² Not including lima beans.

³ Not reported for 1921.

VEGETABLE SEED-Continued.

Table 216.—Vegetable seed: Average yearly import price, in cents per pound, 1910-1921.1

Kind of seed.	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Beet, garden Beet, sugar Cabbage. Catrot. Cauliflowet. Celery 2. Collard. Corn salad Eggplant. Kale. Kohl-rabi. Parsley. Parsup Pepper. Radish.	9. 4 6. 5 22. 9 15. 2 534. 0 9. 4 19. 6 15. 6 78. 6 22. 9 11. 0 8. 5 7. 2 42. 3	10. 3 6. 6 34. 1 17. 0 400. 0 9. 3 12. 4 12. 7 71. 9 9. 0 7. 6 41. 4 12. 3	16. 4 9. 7 37. 6 36. 3 562 0 25. 1 14. 3 20. 7 61. 1 14. 8 28. 0 19. 2 10. 4 40. 9	15. 7 7. 2 47. 6 25. 1 537. 0 87. 2 13. 1 14. 6 80. 8 19. 3 28. 0 28. 1 8. 6 44. 0	15. 0 7. 6 49. 0 30. 6 381. 0 21. 4 17. 0 12. 6 80. 6 25. 8 35. 2 18. 6 8. 2 38. 2	11. 0 8. 8 35. 0 25. 0 343. 0 18. 3 13. 4 13. 5 80. 5 20. 9 28. 0 11. 0 7. 0 41. 0	12. 0 11. 2 42. 2 34. 0 524 0 26. 6 24. 0 15. 0 86. 2 17. 3 28. 4 12. 2 8. 1 12. 2	17. 2 11. 6 44. 4 45. 4 606. 0 18. 8 77. 0 16. 8 68. 7 27. 1 40. 6 14. 4 57. 0	49. 2 170. 8 86. 1 458. 7 38. 0 38. 1 157. 1 75. 3 78. 1 19. 7 49. 2 88. 4 67. 6	211. 8 120. 4 382. 3 40. 0 49. 1 219 7 63. 9 98. 5 39. 3 60. 4 151. 9 57. 5	21. 1 22. 2 76. 6 22. 6 820. 9 19. 6 26. 0 44. 9 187. 6 26. 7 52. 8 11. 9 21. 9 109. 5 24. 0	14. 2 19. 6 57. 0 27. 0 813. 4 14. 3 143. 5 26. 7 12. 5 13. 2 68. 3 21. 8
Spinach Turnipand rutabaga	46.0 8.5	5.0 8.6	5.7 7.9	5. 2 9. 3	4.6 9.1	4.8 8.7	8.0	12.6	33. 2	21. 9 36. 9	11.6 22.8	9. 7 14. 6
	ι .			1	1	1			1	1		

 $^{^1\,\}rm Bureau$ of Foreign and Domestic Commerce, U. S. Department of Commerce. $^2\,\rm Imported$ for planting and other purposes.

Table 217.—Vegetable seed: Retail catalogue prices, 1917-1922.1,2

	10	1917		1918		1919		920	19	21	19	22
Kind of seed.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.	Per oz.	Per lb.
Beans, dwarf snap. Beans, garden pole ³ Beet, garden Beet, garden Beet, mangel Cabbage Carrot. Celery, domestic Celery, imported Cucumber Lettuce. Muskmelon Watermelon Onion Seed Parsley. Peas, garden Radish. Spinach. Squash, summer	\$0. 15 10 25 15 25 145 10 15 10 25 10 10 10 10 10	1 26	\$0. 20 15 20 30 1.40 15 15 10 55 20 20 20 15 20 20 20 20 20 20 20 20 20 20	\$0. 43 2. 35 1. 30 5. 05 2. 25 2. 85 15. 35 1. 40 1. 305 1. 37 1. 65 2. 105 1. 50 3. 35 1. 40 1. 395 2. 40 1. 395 2. 35	\$0. 20 15 90 20 30 15 15 15 15 15 15 15 20 20 20 20 20 20 20 20 20 20	\$0. 41 .43 1. 75 1. 20 11. 10 2. 95 1 3. 30 1. 35 1. 15 3. 80 1. 80 1. 25 1. 80 1. 65 1. 60 .345 2. 05	\$0. 15 .10 .15 .30 .95 .15 .15 .15 .15 .15 .15 .15 .15 .15 .1	\$0.39 .40 1.35 .90 5.25 1.30 3.20 10.45 1.50 1.10 3.15 1.10 1.25 1.30 1.65 1.70 1.45 1.30 1.65 1.70	\$0. 15 .10 .35 .15 .30 .85 .15 .20 .15 .15 .15 .15 .15 .15 .15 .15 .15 .15	\$0.39 .41 1.15 .80 3.90 1.10 3.00 9.85 1.40 1.55 3.00 1.105 .42 1.15 1.60 1.60 1.50 1.60 1.105 1.60 1.105 1.60 1.105 1.60 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.105 1.10	\$0. 14 .10 .13 .20 .85 .15 .17 .14 .24 .14 .14 .10 .17	\$0.37 .39 1.00 .705 1.00 2.755 1.55 1.55 1.55 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.100 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .37 1.000 .300 .300 .300 .300 .300 .300 .30

¹ Represents average of prices quoted for standard varieties of vegetable seed by a number of representative mail-order dealers.

2 From Weather, Crops, and Markets.
3 Not including lima beans.

VEGETABLE SEED-Continued.

Table 218.—Vegetable seeds: Imports into United Staces, 1910 to 1922.

			Calendar years.									
Kind of seed.	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Beet, sugal Beet, all other. Cabbage Carlot. Castor been ¹ Cauliflower Celery ¹ Collard. Corn salad Eggplant Kale Koil-tabl Mushroom spawn Mustardt	1,000 lt.s 10,309 624 176 37,240 6 189 1 7 7 3 17 50 368 9,124	1,000 lbs. 11,109 639 261 155 39,512 10 341 1 10 1 1 25 17	1,000 lbs. 11,390 872 311 97 48,913 7 7 39 (2) 8 2 2 39 11 168. 12,198	887 273 149 11, 229 9 23 2 6 2 32 14	1,077 255 172	1,000 lbs. 15,893 991 425 87 46,230 640 9 5 1 1 49 16	1,000 lbs. 9,048 786 278 38 53,598 9 608 (2) 5 2 2 40 10 66,402	1,000 lbs 14,466 483 108 15 38,353 8 756 (2) 4 1 16 9	1,000 (bs. 15,637 448 83 33 52,201 8 (2) 2 2 2 8 17 17 13,036	1,000 lbs. 9,830 169 16 169,413 12 768 1 19 17	1,000 lbs. 23,146 238 391 69 61,961 17 594 (2) 14 17 23	1,000 lbs 7,726 257 253 48 36,565 122 (2) 3 140 14
Parsley. Parsnips. Pepper. Radish. Spinach. Turnips and	75 89 16 470 935	75 57 16 581 972	56 55 18 373 1,218	129 117 10 504 1,698	255 130 12 527 1,386	139 100 15 550 1, 136	70 100 15 309 838	38 65 5 119 634	66 7 22 103 805	53 44 6 112 367	180 17 2 320 1,139	151 57 9 213 1,222
rutabaga	1, 234	1,759	2,868	1, 233	1,581	2,112	1,816	1,066	2, 151	1,810	1,847	2, 242

¹ Imported for planting and for other purposes.

COTTON.

Table 219 .- Cotton: Area and production in undermentioned countries, 1909-10 to 1922-23.1

[Picking seasons, Aug. 1-July 31.]

		Ar	ea.		Poduction (bales of 478 pounds net).					
Country.	Aver- age, 1909-10 to 1913-14.	1920-21	1921-22	1922- 23 ²	Average, 1909-10 to 1913-14	1920-21	1921-22	1922- 23 ²		
NORTHERN HEMI- SPHERE.										
NORTH AMERICA.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	Bales.	Bales.	Bales.	Bales.		
United States 8, 4 Mexico 8, 5	34, 152	35, 878 6 265	30, 509	33,742	13, 033, 235	13, 439, 603 6 188, 000	7,953,641 6 126,000	9,964,000		
Total North America 2	34, 152	35,878	30, 739		13, 226, 235	13,627,603	8, 079, 641			
CENTRAL AND SOUTH AMERICA AND WEST INDIES.			•				And and a second property of an			
Guatemala Dutch West Indies 3, 9 Haiti 9	(10)				8 144 11 161 8, 792	202	45	*********		
Dominican Republic 9					12 1, 066	150				

² Less than 500 pounds.

¹ Official sources unless otherwise stated.
2 Figures for 1922-23 compiled from reports received up to Jan. 6, 1923.
3 Countries reporting for all periods except 1922-23 cither as listed or as part of some other country.
4 Linters not included. Production of linters 1909-13, 502, 711 bales; 1919, 607,969 bales; 1920, 440,313 bales; and 1921, 400,371 bales.
5 From an unofficial source.
6 Laguna District and Lower California only. These two localities produce practically the entire crop of Mexico.
7 Not including about 35,000 acres of volunteer cotton in the Laguna District.
8 One year.

⁸ One year.

⁹ Exports.
10 Less than 500 acres.

COTTON-Continued.

Table 219.—Cotton: Area and production in undermentioned countries, 1909-10 to 1922-23 1—Continued.

		Ar	ea.		Produc	tion (bales o	f 478 pounds	net).
Country.	Aver- age, 1909-10 to 1913-14.	1920–21	1921–22	1922 ²- 23	Average, 1909-10 to 1913-14	1920–21	1921~22	1922-23
CENTRAL AND SOUTH AMERICA AND WEST INDIES—continued.								
Porto Rico 3. St. Croix (U. S. Virgin Islands) 5	41	2	3		4 1,319 519	1,400 61	b 920	
British West Indies: Antigua Montserrat 3,5	$\frac{1}{2}$	1 3	2		246 657	79 826	732	
St Kitts-Nevis 3 Grenada 5	5 ₍₆₎	6	3 3		1,347 703 15	1,615 688 12	732	
St. Lucia 5 St. Vincent 3 Bahamas 5 Barbados	5	8 2	5		1,026 7 24 1,061	1,363	523	
Jamaica 5 Trinidad and To- bago 5	(6)				71 716			
Virgin Islands 5 Guadeloupe Total Central and	43				81			
South America 3	13	19	13		4,510	5, 406	2,952	
Italy. Yugoslavia Greece	* 22	(6)	(6) 23	9	4 13,000	273	266	
Bulgaria 3. Malta 3. Russia, European	8 2 1 9 2	5 1	4 1	7	⁸ 842 433 9 680	1, 212 240	1,841 488	
(Northern Caucasia). Turkey, European Total Europe 3	4 16	6	5		1 10, 000	1, 452	2,329	
AFRICA.	10 2	1	1	1	10 572	356	293	293
Dahomey 5	10 5				664 4 230 4 28	1, 932		
French Sudan 5 French Togo 8, 11 Helian Separation of 5		49	49		7 235 510	4,300	4,600	
Italian Somaliland 6 Erstrea 5 Egypt 3	1,743	1,897	1,341	1,868	980 1,453,000	1, 251, 000	12 684, 000	1, 015, 00
Sudan 3 Gold Coast 5 Kenya 3		(8)	69 (6)		13, 000 39 519	23, 000 40 111	20,000	
Nigoria ⁸ Seychelles ⁶ Uganda ³	58	200	175		9,000 4 18 20,000	26, 000 63, 000	13 2,000 31,000	
Former German Togo 3, 5, .11					7 2, 312			
Total Africa 8	1,803	2,098	1,517		1,498,403	1,367,767	752, 085	

¹ Official sources unless otherwise stated.
2 Figures for 1922-23 compiled from reports received up to Jan. 6, 1923.
3 Countries reporting for all periods except 1922-23 either as listed or as part of some other country.
4 One year.
5 Exports.
6 Less than 500 acres.
7 Four years
7 Four years
8 Pre-war territory.
9 Two years.
10 Thice years.
10 The ormer German Colony is now divided between Great Britain and France.
12 This figure is the official estimate issued in November, 1921. It is now generally considered underestimated, receipts at Alexandria indicating a crop of over 800,000 bales.

Table 219.—Cotton: Area and production in undermentioned countries, 1909-10 to 1922-23 1—Continued.

9 	1921-22 7 18, 436 8 245 4, 284	1922- 2 23 19,845	Average, 1909–10 to 1913–14. 1, 983 133, 000 3, 584, 000 7 953, 000 10 111, 485	1920-21 2,024 3,013,000	1921-22 1,446 3,735,000	1922-23
9 ,341 (5) 297 ,300 (6) 359	7 18, 436 8 245 4, 284	19,845	1, 983 133, 000 3, 584, 000 7 933, 000	2,021	1,446	
, 341 (6) 297 , 300 6 359	18, 436 8 245 4, 284		3, 584, 000 	3,013,000		
(6) 297 , 300 6 359	8 245 4, 284		⁴ 17 7 953, 000		3,735,000	
(6) 297 , 300 6 359	8 245 4, 284		⁴ 17 7 953, 000		3,735,000	1 010
297 300 6 359	4, 284	⁶ 175	7 953, 000	8 115, 000		4,016,000
6 359					8 100,000	8 50,000
359				1, 883, 000	1,517,000	
10	362	366	25, 006 12 9, 000	4,784 111,110 6,000	92, 148	85, 397
007	10.00		1 509 000	9 941 194	9 (000 00)	
907	19,045	=====	4, 806, 967	3,241,131	9, 925, 891	
			i 12 io 125			
998	52, 256		19, 294, 412	18, 243, 362	12, 765, 901	
163	161		1 110, 000	164,000	157,000	
805	1, 420		8 322, 000	451,000	612,000	
50		• • • • • • • •	10 3 000	1,400	1,500	
				3,000	8 5,000	
177			9 6, 855	9 2, 402	6,000	
	22		3, 700	1,670	8 2, 000	
			428			
	• • • • • • • • •		13, 981	997		
			168 4 303	3,606		
2	20		91 12 4	8 640	2,500	
					•••••	
			10 25		************	
19	42		442, 822	621,312	782, 400	
017	52, 298		19, 737, 234	18,864,674	13, 548, 301	
600	58, 574		20, 053, 225	20, 798, 790		verse-so-control man hard to hard trad Application and trade commendation
	997 998 163 805 59 2	997 19,043 998 52,256 163 161 805 1,420 59	997 19,043	16 997 19,043 <t< td=""><td>16 </td><td>16 4,563,989 3,241,134 3,928,894 112 10125 12 12 998 52,256 19,294,412 18,243,362 12,765,901 163 161 110,000 164,000 137,000 805 1,420 8322,000 451,000 1,500 59 103,000 28,000 3,000 85,000 17 22 3,800 1,600 2,900 7 76 1,670 82,000 10,280 997 13,981 997 113,981 168 3640 2,500 2 20 91 8640 2,500 12,90 124 8640 2,500 12,90 124 8640 2,500 12,90 12,50 13,548,301 13,548,301</td></t<>	16	16 4,563,989 3,241,134 3,928,894 112 10125 12 12 998 52,256 19,294,412 18,243,362 12,765,901 163 161 110,000 164,000 137,000 805 1,420 8322,000 451,000 1,500 59 103,000 28,000 3,000 85,000 17 22 3,800 1,600 2,900 7 76 1,670 82,000 10,280 997 13,981 997 113,981 168 3640 2,500 2 20 91 8640 2,500 12,90 124 8640 2,500 12,90 124 8640 2,500 12,90 12,50 13,548,301 13,548,301

Official sources unless otherwise stated.
 Figures for 1922-23 compiled from reports received up to Jan. 6, 1923.
 Countries reporting for all periods except 1922-23 either as listed or as part of some other country.

Countries reporting for all periods except 1922-23 citner as listed or as part of some other country.

One year.

The figure for British Provinces and native States do not add to the total. The latter had been taken from a different source and includes territory not included in the former.

Less than 500 acres.
Including Khiva and Bokhara.

From an unofficial source.

DEX ports.

10 Three years.

11 Estimates by the Chinese Mill Owners' Association which probably represent the commercial crop.

As the home hand loom consumption of cotton in Chinesia believed to be a property of the commercial crop.

Table 220.—Cotton: World production so far as reported, 1900–1921.

[In bales of 478 pounds net weight.]

Year.	Production.	Year.	Production	Year.	Production.	Year.	Production.
1900 1901 1902 1903 1904 1905	15, 893, 591 15, 926, 048 17, 331, 503 17, 278, 881 21, 005, 175 18, 342, 075	1906 1907 1908 1909 1910 1911	22, 183, 148 18, 328, 613 23, 688, 292 20, 679, 394 22, 433, 269 21, 754, 810	1912 1913 1914 1915 1916 1917	19, 578, 095 21, 271, 902 23, 804, 422 17, 659, 426 18, 008, 804 16, 323, 395	1918 1919 1920 1921	17, 186, 107 18, 349, 464 20, 798, 790 15, 072, 067

Table 221.—Cotton: Acreage, production, value, exports, etc., in the United States, 1866—1922.

		Aver-		Aver-		New Y	ork clo	sing pri Idling t	ces per ipland.	Domestic	Im-
Year.	Acre- age.	age yield per acre.	Produc- tion.	farm price per pound	Farm value Dec. 1.	Dece	mber.		of fol- g year.	exports, fiscal year be- ginning July.	fiscal year begin- ning
				Dec. 1.		Low.	High.	Low.	Hìgh.		July 1.
1866-1875 1876-1885 1886-1895 1896	1,000 acres. 8,810 15, 209 19, 421 23, 273 24, 320	Pounds 176. 2 170. 7 176. 9 184. 9 182. 7	1,000 bales 3, 250 5, 652 7, 637 8, 533 10, 898	9. 1 7. 7 6. 7 6. 7	1,000 dollars. 243, 808 260, 415 286, 169 296, 816	Cents. 19½ 10½ 8¾ 7¼ 5¼ 5¼	Cents. 20\$ 11;3 9 7;4 5;5	Cents. 211 10 % 8 % 78 616	Cents. $22\frac{1}{2}$ $11\frac{1}{2}$ $9\frac{1}{10}$ $7\frac{1}{13}$ $6\frac{1}{12}$	Bales. ¹ 2, 151, 216 3, 707, 071 5, 176, 306 6, 207, 510 7, 725, 572	Bales 1 4, 507 8, 462 50, 266 103, 798 105, 321
1898	24, 967 24, 327 21, 933 26, 774 27, 175	220. 6 183. 8 191. 4 170. 0 187. 3	11, 189 9, 345 10, 123 9, 510 10, 631	5. 7 7. 0 9. 2 7. 0 7. 6	315, 449 326, 215 463, 310 334, 088 403, 718	551274 94 812	57 77 1016 83 84 85	61 9 813 93 10.75	61 97 81 81 91 12.15	7, 575, 438 6, 252, 451 6, 718, 125 7, 057, 949 7, 138, 284	100, 316 134, 797 93, 263 197, 431 149, 749
1903 1904 1905 1906	27, 052 31, 215 27, 110 31, 374 29, 660	174. 3 205. 9 186. 6 202. 5 179. 1	9, 851 13, 438 10, 575 13, 271 11, 107	10. 5 9. 0 10. 8 9. 6 10. 4	516, 763 603, 438 569, 791 • 635, 534 575, 226	11. 95 6. 85 11. 65 10. 45 11. 70	14. 10 9. 00 12. 60 11. 25 12. 20	12. 75 7. 85 11. 25 11. 50 10. 20	13. 90 8. 85 12. 00 12. 90 11. 50	6, 179, 712 8, 678, 644 7, 268, 090 9, 036, 434 7, 633, 997	97, 681 121, 017 141, 927 209, 584 142, 146
1908 1909 1910 1911	32, 411 30, 938 32, 403 36, 045 34, 283	194. 9 154. 3 170. 7 207. 7 190. 9	13, 242 10, 005 11, 609 15, 693 13, 703	8.7 13.9 14.1 8.8 11.9	575, 092 697, 681 820, 407 687, 888 817, 055	9. 10 14. 65 14. 80 9. 20 12. 75	9.35 16.15 15.25 9.65 13.20	10, 85 14 50 15, 35 11, 30 11, 80	11.80 16.05 16.15 11.90 12.10	8; 895, 970 6, 413, 416 8, 067, 882 11, 070, 251 9, 124, 591	173, 036 172, 075 227, 537 219, 560 243, 704
1913 1914 1915 1916	37, 089 36, 832 31, 412 34, 985 33, 841	182. 0 209. 2 170. 3 156. 6 159. 7	14, 156 16, 135 11, 192 11, 450 11, 302	12. 2 6. 8 11. 3 19. 6 27. 7	862, 708 549, 036 631, 460 1, 122, 295 1, 566, 198	12.50 7.25 11.95 16.20 29.85	13.50 7.80 12.75 20.30 31.85	12.90 9.50 12.30 19.60 25.70	14.50 10.40 13.35 22.10 30.10	9, 521, 881 8, 807, 157 6, 168, 140 6, 176, 162 4, 641, 023	246, 694 370, 409 465, 602 294, 123 206, 651
1918 1919 1920 1921 1922 ²	36, 008 33, 566 35, 878 30, 509 33, 742	159. 6 161. 5 178. 4 124. 5 141. 6	12, 041 11, 421 13, 440 7, 954 9, 964	27. 6 35. 6 13. 9 16. 2 23. 8	1, 663, 633 2, 034, 658 933, 658 643, 933 J, 192, 461	27. 50 38. 00 14. 50 17. 50 24. 55	33. 00 40. 25 16. 70 19. 45 26. 80	25. 90 40. 00 12. 45 18. 95	34.00 43.00 13.15 21.80	5, 525, 894 7, 087, 487 5, 622, 777 6, 717, 757	207, 184 690, 628 251, 878 358, 330

¹ Bales of 500 pounds gross weight.

² Preliminary estimate.

Table 222.—Cotton: Acreage harvested, by States, 1913-1922.

State	1913	1914	1915	1916	1917	1918	1919	1920	1921	19221
Virginia North Carolina South Carolina Georgia Florida		1,000 acres. 45 1,527 2,861 5,433 221	1,000 acres. 34 1,282 2,516 4,825 193	1,000 acres. 42 1,451 2,780 5,277 191	1,000 acres. 50 1,515 2,837 5,195 183	1,000 acres. 44 1,600 3,001 5,341 167	1,000 acres. 42 1,490 2,835 5,220 103	1,000 acres. 12 1,587 2,964 4,900 100	1,000 acres. 34 1,403 2,571 4,172 65	1,000 acres 53 1,626 2,058 3,466 121
Alabama. Mississippi. Louisiana. Texas Arkansas.	3,760 3,067 1,244 12,597 2,502	4,007 3,054 1,299 11,931 2,480	3, 340 2, 735 990 10, 510 2, 170	3, 225 3, 110 1, 250 11, 400 2, 600	1,977 2,788 1,454 11,092 2,740	2,570 3,138 1,683 11,233 2,991	2, 791 2, 818 1, 527 10, 476 2, 725	2, 858 2, 950 1, 470 11, 898 2, 980	2, 235 2, 628 1, 168 10, 745 2, 382	2, 810 3, 078 1, 185 12, 125 2, 844
Tennessee. Missouri Oklahoma California ² Arizona All other	865 112 3,009 14	915 145 2, 847 47	772 96 1, 895 39	887 133 2, 562 52 25	882 153 2, 783 136 41 15	902 148 2, 998 173 95 12	758 125 2, 424 185 107 10	840 136 2,749 275 230 24	631 103 2, 206 140 90 18	1, 007 198 2, 951 203 100 36
United States.	37, 089	36, 832	31, 112	34, 985	33,841	36, 008	33, 566	35, 878	30, 509	33, 742

Table 223.—Cotton. Production of lint (excluding linters) in 500-pound gross weight bales, by States, 1913 to 1922.

[Thousands of bales, as finally reported by U. S. Bureau of the Census.]

			······································							
State.	1913	1914	1915	1916	1917	1918	1919	1920	1921	19221
Virginia North Carolina South Carolina Georgia Florida	23 792 1, 378 2, 317 59	25 931 1,534 2,718 81	16 699 1,134 1,009 48	27 655 932 1,821 41	19 618 1, 237 1, 884 38	25 898 1,570 2,122 29	23 830 1,426 1,660	925 1,623 1,415	17 776 755 787 11	25 852 530 725 25
Alabama. Mississippi Louisiana Texas Arkansas.	1, 495 1, 311 444 3, 945 1, 073	1, 751 1, 246 449 4, 592 1, 016	1, 021 954 341 3, 227 816	533 812 443 3, 726 1, 134	518 905 639 3, 125 974	801 1, 226 588 2, 697 987	713 961 298 3, 099 884	663 895 388 4,345 1,215	580 813 279 2, 198 797	835 1, 010 357 3, 290 1, 010
Tennessee. Missouri Oklahoma California Arizona All other	379 67 840 23	384 82 1, 262 50	303 48 640 29	382 63 823 44	240 61 959 58 22 5	330 62 577 67 56 6	310 64 1,016 56 60 5	325 79 1,336 75 103 13	302 70 481 34 45 9	400 149 635 34 42 15
United States.	14, 156	16, 135	11, 192	11,450	11, 302	12,041	11,421	13,440	7, 954	9, 961

¹ Preliminary estimate of the Department of Agriculture.

Table 224.—Cotton: Condition of crop, United States, monthly, 1901-1922.

-											
Year.	May 25	June 25.	July 25.	Aug. 25.	Sept. 25.	Year.	Мау 25.	June 25.	July 25.	Aug. 25.	Sept. 25.
1901 1902 1903 1904 1905 1906 1907 1908 1909 1910	70.5 79.7 81.1	P. ct. 81. 1 84. 7 77. 1 88. 0 77. 0 83. 3 72. 0 81. 2 74. 6 80. 7 88. 2	P. ct. 77. 2 81. 9 79. 7 91. 6 74 9 82 9 75 0 83. 0 71. 9 75. 5 89 1	P. ct. 71. 4 64. 0 81. 2 84. 1 72. 1 77. 3 72. 7 76. 1 63 7 72 1 73. 2	P. ct. 61. 4 58. 3 65. 1 75. 8 71. 2 71. 6 67. 7 69. 7 58. 5 65. 9	1912 1913 1914 1915 1916 1917 1918 1919 1920 1929	74. 3 80. 0 77. 5 69. 5 82 3 75. 6 62. 4	P. ct. 80. 4 81. 8 79. 6 80. 2 81. 1 70. 3 85. 8 70. 0 70. 7 69. 2	P. ct. 76 5 79.4 75 4 72.3 70.3 73 6 67 1 74.1	P. ct. 74.8 68.2 78.0 69.2 61.2 67.8 55.7 61.4 67.5	P. cl. 69 6 64 1 73.5 60 8 56.3 60.4 54.4 51.4 42 2

 $^{^1}$ Preliminary estimate. 2 Lower California (122,000 acres in 1922, 85,000 in 1921, 125,000 in 1920, 100,000 in 1919, and 88,000 in 1918) included in California figures but excluded from United States totals.

Table 225.—Cotton: Forecasts of production, monthly, with preliminary and final estimates.

Үеаг.	July.	August.	Sep- tember.	October.	De- cember produc- tion esti- mate	Final esti- mate (census).
1915 1916 1917 1918 1919 1919 1920 1921	1,000 bales. 12,381 14,266 11,633 15,327 10,986 11,450 8,433 11,065	1,000 bales 11,876 12,916 11,940 13,619 11,016 12,519 8,203 11,449	1,000 bales 11,697 11,800 12,499 11,137 11,230 12,783 7,037 10,575	1,000 bules. 10,950 11,637 12,047 11,818 10,696 12,123 6,537 10,135	1,000 bulcs. 11, 161 11, 511 10, 949 11, 700 11, 020 12, 987 8, 310 1 9, 964	1,000' bales. 11,192 11,450 11,302 12,041 11,421 13,440 7,954

¹ Preliminary estimate.

Table 226.—Cotton: Yield per acre, price per pound December 1, and value per acre by States.

Waller Control of the	Yield	l per :	acre (pound	ls of l	int).	Farm price per pound (cents).						Val per s (dolls	acre					
State.	5-year aver- age, 1918- 1922.	1918	1919	1920	1921	1922	10-yearaver- age, 1913- 1922.	1913	1914	1915	9167	1917	1918	1919	1920	1921	1922	5-year aver- age, 1917- 1921.	1922
Va N. C S. C Ga Fla	212 265 203 134 84	268	266 240 152	275 260	264 140	250	19.7 19.9	13.1 12.6 12.7 12.8 17.0	6.9	11.2 11.3 11.4	19 4 19 6 19 9	27 7 28 4 28 8	27. 6 27. 5	35 0 35 2 35 7 35 8 42.0	14.5 14.5 15.3	16. 0 16. 6	24.5 24.3 23.9	60, 26 54, 77 38, 51	51 75 61 25 29. 89 23. 90 22. 31
Ala Miss La Tex Ark	130 159 129 131 169	149 187 167 115 158	160 93	111 145 126 174 195	124 148 114 98 160	142 157 144 130 175	20 1 19.1 19 2	12.7 12.6 11.7 11.5 11.6	6.8 6.9 6.8	11.5 11.2 11.1	20 5 19.1 19.4	28, 5 26, 7 26, 7	27. 8 27. 5 28. 2	34, 8 37, 5 35, 0 35, 0 36, 4	15 3 14 2 13, 2	16 6 15. 0 16. 1	24. 1 24. 0 23. 5	40. 58 33. 91 31. 24	34 08 37, 84 34, 56 30 55 00, 30
Tenn Mo Okla Calif Ariz	195 283 145 252 243	175 200 92 270 280	195 268	185 275 230 266 224	228 325 104 258 242	190 360 103 200 200	18. 6 18. 4 22. 5	12.7 11.5 11.4 13.0	6.5 6.5 7.0	11. 0 11. 3 11. 2	19. 0 19. 0 20. 0	27. 5 26 5 28. 0	27. 0 25. 5 30. 0 48. 0	33. 5 34. 0 35. 2 43. 0 51. 0	13. 5 10. 5 30. 0 30. 0	15. 0 15. 4 17 0 27. 0	21. 5 23. 0 26. 0 30. 0	55, 90 35, 20 79, 53	46, 55 77, 40 23, 69 52, 00 60, 00
U.S	153 1	159. 6	161. 5	178.4	124.5	141.6	19. 5	12 2	6.8	11.3	19.6	27.7	27.6	35.6	13. 9	16, 2	23. 4	40. 03	35. 21

¹ Based upon farm price Dec. 1.

Table 227.—Cotton: Farm price, cents per pound, on 1st of each month, 1908-1921.

			-	,									
Year.	Jan.	Feb.	Mar.	Apr.	May.	Juno.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1908	10. 7	10.8	11.0	10. 2	9.6	10.6	10. 9	10.3	9. 4	9. 0	8.7	8.7	9. 6
1909	8. 4	9.0	9.0	9. 1	9.6	10.1	10. 3	11.3	11. 7	12. 6	13.7	13.9	11. 6
1910	14. 6	14.0	14.0	14. 1	14.0	14.2	13. 9	14.3	14. 4	13. 3	14.0	14.1	14. 0
1911	14. 4	14.3	13.9	13. 9	14.2	14.6	14. 4	13.2	11. 8	10. 2	8.9	8.8	11. 4
1912	8. 4	9.0	9.8	10. 1	10.9	11.0	11. 2	12.0	11. 3	11. 2	10.9	11.9	10. 5
1913	12. 2	11.9	11.8	11. 8	11.6	11. 5	11.6	11. 5	11.8	13.3	13. 0	12.2	12. 4
1914	11. 7	11.9	12.6	11. 9	12.2	12. 4	12.4	12 4	8.7	7.8	6. 3	6.8	9. 1
1915	6. 6	7.4	7.4	8. 1	9.1	8. 6	8 6	8. 1	8.5	11.2	11. 6	11.3	9. 7
1916	11. 4	11.5	11.1	11. 5	11.5	12. 2	12.5	12. 6	14.6	15.5	18. 0	19.6	15. 1
1917	17. 1	16.8	15.9	18. 0	18.9	20. 2	24.7	24. 3	23.4	23.3	27. 3	27.7	22. 7
1918.	28. 9	20.7	30. 2	31. 8	28. 5	27 4	28.6	27. 8	32. 2	31.8	29.3	27. 6	29. 4
1919.	28. 7	24 9	24. 0	24. 5	26. 0	29 5	31.1	32. 5	30. 3	31.3	36.5	35. 6	31. 3
1920.	35. 9	36.2	36. 2	37. 3	37. 7	37.2	37.4	36. 8	31. 1	25.5	19.4	13 9	26. 6
1921.	11. 5	11.8	10. 3	9. 4	9. 4	9.8	9.6	9. 8	12. 6	19.8	17.7	16. 2	14. 7
1922.	16. 3	15 5	15. 9	16. 0	15. 9	18.7	20 4	20. 7	21. 1	20.0	22.4	23. 8	19. 8
A verage 1913-1922	18.0	17.8	17.5	18 0	18.1	18.8	19.7	19 6	19 4	20 0	20.2	19.5	19. 1

Table 228.—Cotton production prevented by all causes and by boll wervil.

	Lint	picked.		produ	d-lint	potent.	tage of al pro-	Value, at duc	farm price tion preven	ices, of picked pro-		
Crop year beginning	Dine	picked.	Farm value of lint and seed		ntcd.		n pre- 1 by—	Alle	uses.	Boll w	eevil	
ın—	Quan- tity.1	Farm value.	picked.	All causes.	Boll wecvil.	All causes.	Boll weevil.	Lint.	Lint and seed.	Lant.	Lint and seed.	
1909. 1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921.	12,041 11,421	749, 890 786, 800 885, 350 591, 130 627, 940 991, 060 1, 532, 690 1, 737, 710 2, 030, 960	904,130 1,026,700 720,080 795,840 1,253,130 1,866,240 2,087,200 2,371,430 1,204,230	8,702 6,893 7,143 7,937 5,937 7,346 9,505 8,951 9,136 8,825	1,297 338 714 1,579 1,381 1,983 2,994 2,095 1,325 2,780 4,595	42 8 30 5 31 3 35 9 26 9 45 4 44 2 43 6	6.4 1.5 3.4 7.1 6 3 10 7 14.3 10 3 6 3 13 7	1,000 dolls. 651,146 613,491 329,485 410,008 495,269 217,225 412,111 821,232 1,214,162 1,313,757 1,566,260 710,820 905,164	1,000 dolls. 755,244 722,385 382,664 470,148 574,952 266,952 1,040,098 1,474,330 1,586,272 1,826,001 1,906,834 1,012,987	16, 156 40, 984 98, 530 50, 614 111, 246 258, 682 284, 082 190, 535 491, 504	17, 394 45, 206 112, 937 61, 807 143, 251 325, 814 354, 586 229, 592 569, 113 409, 438	

¹ Data from Census Bureau.

Table 229.—Percentage of loss of cotton due to boll weevil, 1909-1921.

[Expressed in percentage of a normal or full yield per acre.]

	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
North Carolina	P. ct.				P.ct.		1	$\overline{P. ct.}$	$\overline{P.ct.}$	P.ct.	P.ct.	P. ct.	P ct.
South Carolina Georgia. Florida.					0.10		0.02 28	3 44	9 06	10.73		30 56	31.48 45.12
Tennessee					. 10	0 08		1.23	1.74	. 37	.17		7. 21
Mississippi Louisiana	4.20 41.70	14.66 40.80	5 10 11.40	18.00 13.70	33 90 25.10	24. 14 17. 66	24 68 19 85	31.73 24.31	22. 22 11. 89	10 41 9.79	19.56 21.84	32. 25 25. 99	$\frac{30.38}{34.80}$
Tevas Oklahoma Arkansas	12 10 3.00 6.10	1.27	. 20	. 50	. 40	. 79	2.70	3.70	4.35	1.30	1.48	8.81	33.66 41.36 21.84
U.S. average ¹ .	6.13	5.30	1. 28	3. 26	6.69		-	-		-	13 20		-

¹ Average is weighted and includes cotton States in which there was no damage by boll weevil.

Table 230.—Loss of cotton production per acre, in pounds, by causes, 1909-1921.

Year.	Defi- cient mois- ture	Excess- sive mois- ture.	Other cli- matic.	Total cli- matic.	Plant dis- eases.	Insect pests.	Defec- tive seed.	Other or un- known.	Total.
1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1919 1920	Pounds. 49.3 39.3 35.0 24.5 45.3 24.0 21.8 26.6 45.2 71.0 8.1 6.6 26.5	Pounds. 22.0 23.3 8.9 23.8 6.5 8.8 15.7 29.6 5.7 2.7 45.9 27.0 13 2	Pounds. 26.5 20.9 12.2 15.1 18.1 9.4 20.6 21.6 2.78 14.4 9.7 6.7	Pounds. 97.8 83.5 56.1 63.4 69.9 42.2 58.1 77.8 78.7 40.3 49.3	Pounds. 14.6 17.6 2.9 13.3 1.5 .7 6.0 2.7 4.2 6.1 4.11 3.5 3.1	Pounds. 28.3 22.1 22.3 19.2 27.2 29.5 37.3 47.8 35.7 23.5 56.4 73.5	Pounds. 0.3 1.0 1.2 .9 1.2 .5 .4 .3 .4 .3 .4 .6 .3	Pounds. 3.9 4.3 9.0 2.9 2.6 4.1 10.1 1.4 7.6 3.4 1.2 1.8 1.3	Pounds. 144.9 128.5 91.5 99.7 102.4 77.0 111.9 130.0 126.6 121.4 125.8 119.7 163.1
Average 1909-1990	20 E	15. ^							

² Bales weighing 500 pounds gross.

Table 231.—Cotton: Monthly marketings by farmers, 1912-1922.

					Pe	er cent	of year	r's sale	s.				
Year.	Λug.	Sept	Oet	Nov	Dec.	Jan	Feb.	Mar.	Apr	May	June	July.	Sea- son
1912-13. 1913-14. 1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. Average, 10-year.	1 2 2.7 3 9 2.5 3 3 1.4 3 1 3.6	17. 2 18. 2 6. 8 11. 3 14. 6 11 3 10. 9 9. 5 10. 0 14. 0	25 8 24. 4 14. 8 19. 3 23. 0 23. 0 18. 1 21. 0 16. 2 22. 3	20. 3 19. 7 18. 0 20. 4 21. 6 22. 7 16. 4 22. 2 15. 7 17 1	12.8 13.3 16 1 16.4 15.0 16 2 13.6 17.4 11.0 12 1	8.0 8.3 11.0 8.4 6.4 8.2 5.4 8.8 6.4 5.9	5 2 5 3 8 8 3 5 4 4 4 0 5 5 6 6 4 3 5 4	4 5 4.4 7 7 7 5 2 3 9 4.5 4 6 4.9 6.0 4.6 5 0	2.6 2.7 6.1 3.9 3.0 2.6 4.6 3.2 6.7 4.6	1.5 1.5 2.5 3.6 2.5 1.3 7.5 2.7 6.9 5.9	1.1 1 2 2 7.5 2 3.4 1.6 1.0 6.8 1.7 6.8 3.0	1 1. 0 1 1. 0 .5 .9 4. 4 1. 6 5 6 2. 6	100 100 100 100 100 100 100 100 100 100

¹ Includes August.

Table 232.—Cotton: Average closing prices, cents per pound, for future delivery, New York, 1921-22.

Maryon into Communication of the Americans of States						Delive	ryın—					
During—	Aug. 2	Sept. 2	Oct.	Nov.2	Dec.	Jan.	Feb. ²	Mar.	Apr.2	May.	June. 2	July.
1921. August September October November December	12. 82 18. 85 17. 64 16. 53 16. 82	13. 57 19 04 17 29 16. 23 16. 59	13. 77 19. 54 19. 16 15. 94 16. 35	13. 98 19. 61 19. 13 17. 38	14. 17 19. 79 19 19 17 61 17. 77	14. 18 19. 68 18. 94 17. 45 17. 86	14. 27 19. 58 18. 86 17. 44 17. 83	14.38 19.58 18.76 17.41 17.81	14. 42 19. 47 18. 56 17. 28 17. 63	14. 47 19. 41 18. 36 17. 19 17. 49	14. 50 19. 26 18. 14 16. 99 17 27	2 14. 69 19. 12 17 90 16. 76 17. 05
1922. January February March April May June	16. 59 16. 59 17. 09 17. 43 19. 80 21. 70 22. 02	16. 34 16. 40 16. 90 17. 38 19. 70 21. 57 22. 04	16. 11 16. 23 16. 75 17. 36 19. 72 21. 50 22. 02	15. 93 16. 17 16. 68 17. 35 19. 70 21. 41 21. 96	215. 86 16. 12 16. 61 17. 34 19. 68 21. 33 21. 90	17. 99 ² 16. 04 16. 46 17. 27 19. 54 21. 17 21. 68	17. 57 17. 25 17. 30 19. 51 21. 10 21. 63	17. 57 17. 59 18. 14 17. 29 19. 49 21. 04 21. 59	17. 40 17. 44 17. 87 17. 59 21 00 21 49	17. 21 17. 30 17. 89 17. 90 20. 26 20. 91 21. 40	16. 99 17. 14 17. 56 17. 61 19. 60 21. 52	16. 76 16. 79 17. 25 17. 45 19 80 21. 58 22. 19
Crop-year average.		17.75	17. 87	18.12	18.11	18.19	18 39	18.39	18 20	18.32	17.87	18. 11
AugustSeptemberOctoberNovemberDecember	21. 14 24. 36 24. 91	21. 47 21. 17 23. 90 21. 34	21, 60 21, 08 22, 01 23, 37 23, 76	21.61 21 21 22.58 25.40	21. 63 21. 33 22. 72 25 49 25. 11	21. 48 21. 18 22. 52 25. 37 25. 43	21. 50 21 22 22. 58 25 36 25, 52	21. 51 21. 26 22. 63 25. 34 25. 63	21. 45 21. 22 22. 60 25. 25 25. 64	21. 42 21. 19 22. 56 25. 17 25. 64	21. 27 21. 09 22. 45 25. 01 25. 50	2 21.25 2 21.00 22.35 24.85 25.37

¹ Compiled from New York Cotton Exchange reports.

Table 233.—Cotton, middling: Monthly average spot price, cents per pound. NORFOLK.

dan war	Aug.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aver-
Crop year.	Aug.	Sept.	Oct.	1401	Dec.	· Call							age.
		**********					7.89	8, 33	9.38	9.12	8. 97	8. 43	
1914-15	8.77	10.30	11.87	11 39	11.76	11.92	11.53	11 63		12.61			11.62
1916-17	14, 32	15.39	17.40	19.37	17.87	17.50	16 54	18.41	19.73				
1917-18	25, 33			28.35		30.47	30 36	32. 42		29 26 28 32		29.59 33.18	
1918-19	31.51	33. 28	30. 23 33. 70	27.59		20, 23	38 60	25 27 39. 20					
1919-20	30. 79		33.70	37.47									
5-year average.	22.14	22.09	24. ()4	24.83	24.93	24, 99	24.28				27.56		
1920-21	37.00	29.06		17 39		14.85				11.60	10.76	11.31	16.93
1921-22	12.57			17.12			16.83	17. 27	17.12	19.46	21.44	22.17	18.00
1922-23	21.50	20.99	22.48	25 40	25.44								

² Includes July

² Based on nominal prices.

Table 233.—Cotton, middling: Monthly average spot price, cents per pound—Con.

Crop year.	Aug.	Sept.	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aver- age
1914–15 1915–16 1916–17 1917–18 1918–19	8.55 14 18 24.59 31 14 30 72	21.63 32.88	11.88 17.70 26.93 30.46	11.47 19.61 28.42 27.98	11.73 18.64 29.37 28 24	11.95 17.76 31.16 27.33	16.46 31.15	11.66 18.74 33 44 26 17	11.74 20.08 33.08 26.78	20.41 28.61 28.96	12 65 24.60 30.45 31.55	12.79 25 32 29 34 33.59	11.56 19.07 29.01 29.21
5-year average.		21.89										28, 34	
1920–21	35.03 12.83 21.55	19 49	18.74	16.93	17.17	16.74	12 67 16.60			11.36 19.30		11. 29 22. 38	16.62 17.97

SAVANNAH.

1914-15 1915-16 1916-17 1917-18 1918-19	8. 62 14. 21 25. 20	10 24 15.40 21.87 32.91	11 95 17.54 27.05 30.53	11, 60 19, 69 28, 26 29, 43	12.11 19.27 29.28 29.52	12. 20 18. 45 31. 12 31. 00	8, 14 11, 79 30, 94 27, 23 39, 43	11.90 18.82 32.53 27.01	11.90 20 15 33.42 26.96	20.62 31.50 29.11	12 75 24, 83 30 24 31, 92	25.95 30.10 33.61	11.72 119.54 29.29 30 04
5-year average.	22.18	22.02	24. 33		25. 82		2 27.35				28, 30	28. 71	25.76
1920–21 1921–22 1922–23	34.69 12.74 21.29		19.30	17.17	17.39	15.62 17.06	13.95 16 72	11.75 17.36	11.48 17.03	19.39	21.52	22.09	18.12

MONTGOMERY.

1914-15. 1915-16. 1916-17. 1917-18. 1918-19.	8, 42 13, 92 24 67 29, 60	10. 02 15. 21 21. 47 32. 39	11. 74 17. 43 26. 98 30. 24	11. 27 19. 34 28. 43 28. 56	11. 65 18. 33 29. 49 28. 19	17. 78 31. 28 28, 48	11.32 16.81 31.30 27.00	11.37 18.64 33.36 25.98	11, 52 19, 88 33, 88 26, 81	12, 28 20, 14 29, 48 28, 54	8.70 12.46 24.06 29.80 31.10 40.88	12.69 24.82 29.63 33.36	11. 37 18. 86 29. 15 29. 19
5-year average- 1920-21 1921-22 1922-23	21. 46 36. 38 11. 89	21. 66 27. 84 18. 73	24. 13 21. 24 18. 46	25, 15 17, 97 16, 68	25. 18 14. 40 16. 92	25. 72 13. 86 16, 46	24. 96 12. 32 16. 18	25, 75 10, 39 16, 55	26, 60 10, 53 16, 15	26, 22 10, 89 18, 66	27. 66 10. 09 21. 08	28, 13 10, 53 22, 05	25. 22 16. 37 17. 48
	22, 2017	20. 11	~	2. E. (NI)	20.02				•••••				

MEMPHIS.

				····· i						* ********			
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20	8. 91 14. 35 25. 96 30. 98 33. 48	10. 32 15. 56 22. 97 33. 89	12.15 17.40 27.54 31.56	11. 55 19. 60 28. 91 30. 17	12, 12 18, 96 29, 57 29, 42	12. 29 17. 88 31. 07 29. 29 40. 35	11, 79 17, 00 31, 36 27, 18	11, 82 18, 17 32, 82 26, 86	12.00 19.97 33.57 26.90 41.69	12, 81 20, 34 30, 08 29, 08 41, 31	13, 07 24, 02 30, 00 32, 16 40, 73	13. 15 25. 75 30. 00 33. 80 39. 60	11, 83 19, 08 29, 49 30, 11 38, 70
5-year average.	22. 74	22. 74	24. 92			26.18	25,31		26, 83	26, 72	28,00		25, 84
1920-21 1921-22 1922-23	12.17			18. 28 18. 27	14. 75 18. 15	14. 46 17. 80	13.48 17.01	11.65 17.28	11.25 17.00	11.63 19.19	11.06 21.79	$\frac{11.82}{22.72}$	17, 28

¹ Average of 11 months.

^{3 4-}year average.

Table 233.—Cotton, middling: Monthly average spot price, cents per pound—Con.

				LI	TTLE	ROCI	Κ.						
Crop year.	Aug.	Sept.	Oct.	Nov.	Dec	Jan.	Feb.	Mai	Арі	May	June.	July.	Aver- age.
1914-15 1915-16 1916-17 1917-18 1918-19 1919-20	8 61 14. 27 25. 49 30. 73 31. 73	10. 08 15. 26 22. 14 33. 99 30. 31	12. 32 17. 33 26. 72 31. 70 35 32	11. 68 19. 58 28. 26 30. 11 40. 08	12, 15 18, 80 29, 55 29, 37 39, 94	12. 28 17. 70 31. 02 28. 20 39. 98	7. 67 11. 94 16. 81 30. 96 26. 45 39. 10	11.88 17.89 32.53 26.83	12. 25 19. 71 33. 32 26. 40	19.99 30.00 28.33	12.96 23.90 29.28 31.34	13.07 25.42 29.35	11.84 18.89 29.05 29.75
5-year average.	22. 17	22. 36	24.68	25. 94	25. 96	25, 84	25 05	25. 86	26, 85	26, 51	27. 56	28, 20	25. 58
1920–21 1921–22 1922–23	34. 89 11. 81 21. 47	19.60	19.75	18. 23 18. 12 25. 22	14 96 17. 84 25. 53	14. 45 17. 57	13. 35 16. 90	11. 49 16. 89	10. 63 16. 87		10.68 21.17	10. 58 22. 07	16.69 18.12
					DALI	LAS.							
1914–15 1915–16 1916–17 1917–18 1918–19	8. 56 14. 14 24. 86 31. 09 31. 05	10. 17 14. 83 21 88 33 34 30. 60	26. 16 30 89	28.78	17.63 28.53 29.33	11.84 17.17 30 74 27 72 42.08	30.71 25.84	$\begin{vmatrix} 32 & 56 \\ 25 & 71 \end{vmatrix}$	19 09	12.47 19.58 28.85 29.75	29.76 32 10	25. 04 28. 79 34. 16	11.51 18 43 28 47 29.64
5-year average.	21.94	22. 16	24. 45	25.43	25.67	25. 91	24.99	26 08	26.40	26. 25	27.68	27.87	25, 40
1920-21 1921-22 1922-23	32. 74 12. 11 21. 19	26. 40 19. 25 20. 14	19 17	17. 08 17. 10 24. 75	17.12	13.63 16.75	12.16 16 44	10 64 16.93				10 50 22 05	
Makingggggggggggggggggggggggggggggggggggg			***************************************	F	ious:	ron.							
1914-15. 1915-16. 1916-17. 1917-18. 1918-19. 1919-20. 5-year average.	31. 65 22. 48	33. 70 31. 36 22. 73	17 49	27. 87 30. 01 40. 79 26. 02	28. 77 30 26 40. 74 26. 03	31. 25 28. 56 41. 72 26. 31	30, 91	12. 09 18. 18 32 94 26. 43 41. 52 26. 23	12. 27 19. 43 31 80 27. 33 42. 33 26. 63	20.13	13. 26 24. 60	13. 60 25. 54 28. 75 34. 24 38 10 28. 05	12.00 18.92 28.85 30.26 38.77 25.76
1920-21 1921-22 1922-23	13. 06 21. 59	20. 02 20. 69	19. 64 22. 20	17. 65 25. 33	14. 16 17. 73 25. 45	17. 20	17. 05	17. 52	17. 23	19.67	22. 18		
				GA	LVE	STON.							
1915–16 1916–17 1917–18 1918–19 1919–20	9. 15 14. 77 25. 70 31. 56 31. 87	10. 59 15. 48 22. 66 34. 19 31. 58	17. 48 26. 82 32. 25	11 66 19. 82 28 07 30. 30 41. 32	18. 43 29. 11	17. 79 31. 28	11. 89 16. 30 31. 10 28. 26 41, 10	18.31 33.06 26.94	32. 23 27. 63	12. 98 20. 18 28. 40 30. 59 41. 64	24. 58 30. 89 32. 87	13. 71 25. 99 29. 37 34. 62 38 59	19.06 29.06 30.78
5-year average.	22. 61	22. 90	25. 17	26. 23	26.47	26.69	25. 73	26. 59	26.96	26.76	28.31	28.46	26. 07
1920-21 1921-22 1922-23	33 78 13, 33 21, 79	28. 15 20. 33 20. 77	21. 98 20. 05 22. 28	18. 10 17. 99 25. 37	15, 00 17, 92 25, 48	14.38 17.32	12. 99 17. 10	11.76 17.59	11.47 17.39	12. 01 19. 75	11, 27 22, 23	11.80 22.67	16. 89 18. 64

Table 233 .- Cotton, middling: Monthly average spot price, cents per pound-Con.

				.,									
Crop year.	Aug.	Sept.	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aver- age
1990-01 1901-02 1902-03 1903-04 1904-05 1905-06 1906-07 1907-08 1908-09	8. 28 8. 43 12. 70 10. 59 10. 48 9. 99 13. 13 9. 92	8, 43 10, 72 10, 54 10, 26 9, 24 12, 41	7.99 8.22 9.66	9.50 11.28 10.39 10.84	7. 93 8. 14 12. 52 7. 48 11. 88 10. 53 11. 54	7. 88 8. 66 14. 06 6. 83 11 56 10. 46 11. 84	8. 08 9. 36 14. 38 7. 45 10. 67 10. 49 11. 63	8. 54 9. 73 15. 07 7. 45 10. 84 10. 83 10. 93	9. 13 10. 05 14. 45 7. 39 11. 28 10. 79 10. 20	9.39 11.14 13.41 7.90 11.33 11.85	9. 15 12. 71 11. 38 8. 87 10. 99 12. 81 11. 59	8 94 13. 02 10. 86 10. 61 10. 96 12. 89 10. 81	8 40 9.64 12 49 8.70 10.97 10.92 11.41
9-yearaverage	3 10 44	9.92	9.59	9.59	9.81	10.02	10.08	10.13	10.16	10.46	10. 73	10.95	10.14
1909-10	12. 28 14. 92 11. 96 12. 07 12. 62	13 49			14.85 9.17 12.81	14.95 9.53 12.58	14 62 10.31 12.51	14 54 10 65 12,45	14. 70 11. 61 12. 44	11.72	15 26 12.07 12.44	14.30 12.93 12.34	14, 65 10, 85 12 20
5-yearavelage	12 65	12.38	12. 40	12.73	12.95	13.04	13 04	13.07	13 30	13. 55	13.68	13.57	13.03
1914–15 1915–16 1916–17 1917–18 1918–19	(4) 8. 94 14. 26 25. 10 30. 23	21.68		7. 43 11. 50 19. 45 28. 08 29. 75	18.34	7. 87 12. 04 17. 33 31. 07 28. 84	11, 45 17, 14 30 92	8 34 11, 73 17, 91 32, 76 26, 84	11.88 19.50	9, 04 12, 61 20, 06 28, 92 29, 36	12.80 24.17 30.71	8. 71 13. 03 25. 41 29. 50 33. 93	18.84 28.97
5-year average.	619.63	17.81	18, 83	19. 24	19.18	19. 43	18.90	19.52	20.11	20.00	21.78	22.12	19.52
1919–20	31. 38 34. 03 12. 78 21. 55	30. 38 27. 35 19. 35 20. 74	35. 30 20 97 18. 99 22. 05	39, 58 17, 65 17, 27 25, 34		14 53	39. 40 12. 85 16. 36	40. 69 11. 08 16. 74		40.32 11.80 19.31	11 03	11.49	16.55

¹ Prior to February, 1915, compiled from quotations in Market Reports of the New York Cotton Exchange, except Sept. 23 to Nov. 16, 1914, when the exchange was closed, quotations for which time were taken from the New York Commercial and Financial Chronicle; from February, 1915, compiled from daily reports, Bureau of Agricultural Economics.

² Average of 11 months.

Table 234.—Cotton: Prices per pound of American middling at Liverpool.

			***************************************				*	t		1	-	-	,
Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- ago.
1912 1913 1914 1915 1916 1917 1919 1920 1921	Cts. 11. 16 14. 06 14. 34 9. 77 15. 99 21. 76 46. 16 37. 66 43. 61 15. 32 18. 12	Cts. 11.90 13.97 14.25 10.06 15.61 21.34 45.88 34.53 41.61 12.71 17.75	Cts. 12.34 13.97 14.28 10.46 15.48 24.07 47.19 30.39 45.16 11.78 19.21	Cts. 13. 09 14. 00 15. 02 11. 37 15. 47 25. 23 46. 52 33. 24 44. 17 12. 07 18. 89	Cts. 13. 03 13. 58 15. 20 10. 42 16. 77 26. 17 42. 28 35. 70 42. 51 12. 53 21. 42	Cts. 13. 37 13. 67 15. 71 10. 47 16. 47 34. 07 43. 89 38. 25 44. 48 11. 66 23. 46	Cts. 14.46 13.61 14.74 10.32 15.94 37.65 43.09 38.33 41.83 24.98	Cts. 13.83 13.38 13.23 10.79 17.54 38.21 45.26 34.06 38.31 13.34 24.90	Cts. 13.55 15.10 12 22 12.24 18.99 35.96 48.44 32.20 31.33 20.70 23.98	Cts. 12, 59 15, 55 10, 53 13, 90 20, 69 34, 85 46, 46 38, 06 24, 41 20, 85 24, 56	Cts. 13. 82 14. 94 9. 25 13. 74 23. 05 43. 38 43. 97 41. 99 19. 18 18. 46 27. 96	Cts. 14. 31 14. 54 8. 93 15. 03 22. 16 44. 25 42. 30 40. 92 14. 74 18. 84 28. 26	Cts. 13. 12 14. 19 13. 14 11. 55 17. 85 32. 24 45. 12 36. 28 35. 94 15. 02 22. 82

¹ International Yearbook of Agricultural Statistics, p. 443, 1912-1921. London Economist, 1922. Average of weekly quotations.

^{3 8-}year average.
4 Market closed.

⁵ No quotations prior to Sept. 23. Average for 7 days' business. ⁶ 4-year average.

Table 235.—Cotton: Average spot prices per pound of Oomras No. 1 fully good at Bombay. 1

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug	Sept.	Oct	Nov.	Dec.	Aver- age.
1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922	Ct:. 10. 2 12. 9 10. 2 6. 2 10. 5 15. 4 25. 2 26. 2 25. 8 8. 7 13. 3	Cts. 10.9 12.8 9.6 6.4 10.4 14.2 26.3 22.7 21.9 8.2 12.5	Cts. 11. 0 12. 4 9. 0 6. 5 10. 3 14. 3 26. 9 19. 2 23. 8 7. 1 12. 8	Cts. 11.1 11.7 9.1 7.6 9.8 14.8 27.4 19.6 22.3 7.6 13.8	Cts 11.0 10.8 8.6 7.4 10.1 14.5 26 0 23.2 16.3 8.9 4 18 3	Cts. 10.8 10.4 9.7 7.5 10.3 16.2 25.7 25.1 14.2 9.8 4 19.1	Cts. 11. 4 10. 1 9. 3 7. 4 10. 6 18. 5 26. 2 29. 1 12. 4 9. 7 19. 9	Cts. 11.3 9.6 7.6 7.8 11.6 17.5 32.4 24.9 (3) 10.4 19.2	Cts 11. 2 10. 8 6. 5 9. 3 12. 2 15. 9 33. 4 20. 6 (3) 16. 0 4 17. 0	Cts 11. 3 11. 4 6. 5 11. 0 13 1 16. 7 33. 0 21 9 9. 8 16. 5 4 16. 4	Cts. 11.5 11.0 26.3 10.1 14.2 17.4 20.3 25.8 9.0 12.5 417.9	Cts. 12.9 10.8 25.8 10.2 10.6 22.1 21.4 26.9 8.2 2 15.1 4 18.1	Cts. 11.2 11.2 8.2 8.1 11.1 16.4 27.0 23.8 16.4 10.9 16.5

¹ Indian Trade Journal. Converted at par of exchange \$0.3244 per rupee to 1919. Federal Reserve. Board Exchange Quotations 1919 to date.

² For January delivery.

³ No quotations.

⁴ Fully good broach, no quotations for Comras No. 1.

Table 236.—Cotton: Average spot prices per pound at Liverpool No. 1 Oomras fully good. 1

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922	12. 0 8. 5 12. 6 16. 9 38. 2 35. 3 32. 6	Cts. 10. 8 12. 8 11. 5 8. 4 12. 4 17. 3 37 6 32. 6 30. 0 10 6 14. 9	Cts. 10. 9 12. 7 11. 5 8. 5 12. 1 20. 2 38. 2 27. 7 32. 3 9. 2 15. 4	Cts. 11. 3 12. 5 11. 5 9. 2 11. 9 21. 0 38. 2 28. 9 31. 8 9. 4 16. 0	Cts. 11. 6 12. 2 11. 4 8. 9 13. 0 22. 1 35. 2 30. 1 30. 2 9. 8 15. 7	Cts. 11.7 11.9 11.0 9.1 12.8 31.2 36.8 32.4 29.1 9.2 18.9	Cts. 12.3 11.8 10.6 8.9 12.9 33.4 36.8 32.2 26.1 9.3 19.7	Cts. 12 2 11. 6 9. 7 9. 1 14. 2 34. 2 37. 8 30. 7 23. 8 10. 5 19. 8	Cts. 11 9 12.9 9.1 15.0 31.9 44.1 29.0 21.6 16.0 18.9	Cts. 11.6 12.9 8.8 10 9 15.8 36.9 42.4 30.5 18.5 16.9 18.8	Cts. 12.1 12.8 7.9 10.7 17.6 37.6 37.5 32.1 15.7 15.3 20.6	Cts. 12.5 12.5 7.7 11.9 16.6 37.2 34.3 32.0 12.0 15.4 20.5	Cts. 11 6 12.4 10.2 9.5 13.9 28.3 38.1 25.3 12.0 17.9

¹ London Economist. Average of weekly quotations.

Table 237.—Cotton: Average monthly spot prices per pound in Alexandria, Egypt, 1912-1921.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1912 1913 1914 1916 1916 1917 1918 1919 1920	19. 2 35. 1 37. 9 (2)	Cts. 16.6 18.7 17.0 11.9 21.1 37.3 36.6 (2) 94.6 15.1	Cts. 16. 8 19. 0 16. 4 13. 0 21. 0 39. 6 38. 0 (2) 87. 2 16. 3	Cts. 17.6 19.4 17.0 14.3 20.3 48.7 38.3 (2) 94.0 16.3	Cts. 18. 1 19. 0 16. 8 13. 2 20. 6 49. 3 36. 5 (2) 82. 7 15. 3	Cts. 18.9 18.5 16.7 13.1 21.4 51.7 37.6 (2) 69.8 14.2	Cts. 19.4 18.2 16.3 12.5 20.7 60.1 40.5 (2) 61.2 14.9	Cts. 18.5 17.8 (2) 12.6 20.6 45.1 (2) 47.1 54.9	Cts. 17. 2 18. 5 (2) 23. 3 29. 6 (2) 42. 6 41. 9 25. 7	Cts. 15.8 18.6 9.6 (2) 27.5 32.4 (2) 45.6 32.5 30.9	Cts. 17. 0 18. 6 11. 2 16. 2 34. 5 35. 6 (2) 60. 5 24. 2 26. 0	Cts. 18.1 18.0 10.5 (2) 35.4 38.5 (2) 71.9 19.5 27.3	Cts. 17.5 18.6 14.9 13.1 23.8 41.9 62.3 19.7

¹ Monthly Agricultural Statistics, Ministry of Finance, Cairo, Egypt. Conversions made on the basis of the prevailing rate of exchange as quoted by international Institute of Agricultural Annual, 1921, p. 506.

² No quotations.

Table 238.—Cotton: Average spot prices, per pound, at Liverpool, Egyptum Uppers—Good.¹

Year.	Jan	Feb	Mai.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1912 1913 1914 1915	Cts 18.0 19.9 18.9 12.2	Cts. 16 9 20 1 17 9 12 8	Cts. 17. 6 20. 2 17. 3 14. 0	Cts 19. 3 20. 3 17. 9 15. 5	Cts. 19.5 20.2 18 1 14 5	Cts. 21. 3 19 7 18. 2 14. 4	Cts. 21.3 19.0 17.6 13.8	Cts. 20. 2 18 8 16. 5 14. 1	Cts. 19.1 20 0 16.1 15.1	Cts. 18.3 20 2 13 5 18 1	Cts. 18.9 20.0 12 6 17.9	Cts. 19.3 19.5 12.2 18.6	Cts 19. 1 19. 8 16 1 15. 1
1916	21. 9	22. 5	22. 4	21.6	22. 4	23 5	23.7	23.7	27. 2	31. 2	39. 5	39. 6	26, 6
1917	39. 7	41. 9	44. 5	50.5	52. 0	55. 4	60.3	60.9	52. 0	46 7	51. 6	51. 4	50 8
1918	53. 8	51. 5	54. 9	56.3	54. 0	52. 6	54.4	55.8	55. 4	51. 3	51. 7	50. 4	53, 8
1919	50. 3	50. 0	49. 3	48.3	48. 3	48. 4	46.4	48.8	48. 8	53. 4	67. 0	76. 3	53, 0
1920	94. 0	105. 0	108. 7	107.6	97. 1	81. 3	71.6	68. 6	53. 4	37. 0	29. 4	23.4 29.4 31.2	73. 1
1921	24. 6	20. 8	19. 6	21.5	18. 8	18. 8	18.0	18. 6	29. 3	33. 3	28. 3		23 4
1922	28. 8	27. 4	28. 4	26.8	28. 1	29. 7	29.4	28. 1	27. 4	27. 3	30. 7		28. 6

¹ London Economist, average of weekly quotations.

Table 239.—Cotton: International trade, calendar years 1909-1931.

[Expressing bales of 500 pounds gross weight of 478 pounds net. The figures for cotton refer to gained and unignaned cotton and linters, but not to mill waste, cotton batting, scarto (Egyptian and Sondan), Wherever unignated cotton has been separately stated in the original reports it has been reduced to gained cotton in this statement at the ratio of 3 pounds unguined to 1 pound gained. See "General note," Table 161.]

Country	Average,	1909-1913	19	919	19	20	19	21
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Biazil. British India. China. Egypt. Persia. Pertu. United States PRINCIPAL IMPORT-	1,000 bales 1 60 43 (1) (1) (1) 215	1,000 bales. 83 1,966 210 1,442 109 87 9,008	1,000 bates, 14 67 (1) 1	1,000 bates. 56 1,528 299 1,390 11 183 6,735	1,000 bales. 24 189 2 2 600	1,000 bates. 114 2,052 105 829 5 160 6,359	1,000 bales. 130 469 (1)	1,000 bales. 90 2,210 170 993
Austria-Hungary Belgium Canada France Germany Hialy Japan Mexico Netherlands Russia Spain Sweden Switzerland United Kingdom Other countries	906 496 137 1, 435 2, 258 896 1, 405 23 277 886 382 93 113 4, 164 215	12 159 316 232 (1) 3 1 145 (1) 1 1	289 179 1,008 826 2,190 114 341 76 115 3,843 156	51 78 2 4 1 2 65	2 55 689 241 1, 083 691 825 2, 176 124 375 107 97 3, 457 240	221 151 3 1 8 8	* 116 426 182 922 728 2, 420 120 380 59 114 2, 137 110	227 105 3
Total	14,005	13, 956	9, 570	10, 405	10,977	10, 101	8, 591	10, 581

¹ Less than 500 bales.

² Austria only.

^{*} Four-year average.

COTTONSEED.

Table 240.—Cottonseed: Production, by States, 1918-1922.

[As reported by the United States Bureau of the Census.]

Q4-4-	Pro	duction	(thousar	nds of to	ns).	Tota	ıl value (thousan	ds of doll	ars)
State.	1918	1919	1920	1921	19221	1918	1919	1920	1921	19221
Virginia North Carolina South Carolina Georgia Florida.	11 398 699 947 17	10 368 633 736 8	9 410 720 628 8	7 344 334 349 5	11 378 235 322 11	\$740 26,810 47,550 64,170 1,130	\$740 27, 340 47, 460 55, 260 530	\$230 10, 550 16, 620 16, 640 220	\$220 11,420 11,510 11,070 160	\$478 17, 407 10, 928 14, 603 374
Alabama. Mississippi. Louisiana Texas. Arkansas.		316 427 132 1,379 393	294 397 172 1, 934 510	257 361 124 978 354	371 448 158 1, 461 462	23, 910 35, 340 16, 650 74, 670 28, 240	23, 020 28, 100 8, 660 82, 640 24, 880	7, 840 9, 570 4, 490 41, 350 12, 400	7,890 10,330 3,400 27,430 9,990	15, 953 18, 144 6, 107 57, 710 17, 995
Tennessee. Missouri. Oklahoma. All other		138 28 452 51	145 35 594 85	134 31 214 39	178 66 282 41	9,440 1,760 15,920 3,160	9, 210 2, 040 27, 130 3, 460	3,700 790 11,210 1,380	4,090 970 5,300 780	7, 743 2, 343 10, 434 1, 325
United States.	5, 360	5, 074	5, 971	3, 531	4, 424	349, 490	310, 470	136, 990	104, 560	181, 544

¹ Preliminary estimate by Department of Agriculture

Table 241.—Cottonseed: Farm price per ton on 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	λuĝ.	Sept.	Oct.	Nov.	Dec.	Aver- age.
1910	16 57	\$25 61 16 81 22 01	18 21	18 62	19 21	19 24	19 04	\$20 45 18 02	18 09 17.61	16 73 18.04	16 69 18 57	16 70 21.42	\$26 02 21 98 18 45 21.79
1914 1915 1916 1917	36 85	23 33	22.32 36 56	24.17 22 69 38 13 55 91	22.07 37 91	20.82 35 79	20 05 36 06	20 14 35 22	20.98 41.13	33 73 47 19	34. 01 55. 82	35 54 56 35	20 40 24 57 42 81 58 30
1918. 1919. 1920. 1921.	64 93 69 88 18 90	66. 95 64 65 69. 34 19 76 30 17	64 00 67 18 18 92	64 28 68 71 17 23	63 83 69 88 17. 28	63.80 66 16 17.06	64 24 61.64 18 75	66 23 43 22	62 13 29 96 27 19	66.95 28 94 31 05	72 65 26 00 29 15	69 07 19 83 28 78	51 73 22 18
Av.1913-1922	40 37	40. 78	40 83	42. 19	42 04	40. 97	40.28	37 77	36 72	40 78	42 86	42 70	41.60

COTTONSEED OIL.

Table 242.—Cottonseed oil: Monthly average price, per hundredweight, of spot prime summer yellow, New York.¹

Crop year.	Aug	Sept	Oct.	Nov	Dec.	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aver- age
1909-10 1910-11 1911-12 1912-13 1913-14	\$5 46 10 84 5 85 6.47 8.88	10 12 6 96 6 38	8 11	7.29 5 73 6 01	7 24 5 37 6 30	7 32 5 39 6 25	7.03 5.54 6.35	6.60 5.69 6.41	6 19 6 46 6 96	6 55 7 18 7 01	6 43 6 86 7.70	5 89 6 67 9 11	7 47 6 11 6 77
Average	7. 50	7. 41	6.78	6 58	6 62	6 65	6.64	6 72	6.98	7 18	7 25	7 17	6 98
1914-15 1915-16 1916-17 1917-18 1918-19	6 67 5 78 9 27 14 84 20 25	10 17 16 44 20 25	7 71 11.75 17 99 20 25	12 53 18 59 20 25	8 38 12 38 18 65 20 25	8 99 12 32 20 09 20 25	9 59 12 51 20 33 20 25	10 53 13.62 19 84 20.25	10 73 15 30 19 75 21 25	10 91 16 23 20 00 21 25	10 91 16 26 20 25 25 03	10 04 14.52 20 25 27 37	8. 98 13 07 18. 91 21. 41
Average	11 36	11 81	12 58	12 97	13 10	13 64	13 95	14 19	14 73	14 96	15 73	15 65	13 72
1919-20 1920-21 1921-22 1922-23	25. 88 12. 32 8 69 9 96	13.48 9.88	11 43	22 75 10 14 8 30 9.51	8.91	8.59	7 34		6 24	7 22	7 16	8. 57	9 00

¹Compiled from New York Produce Exchange reports, except prices for current year, which are based on quotations in the Oil, Paint and Drug Reporter.

Table 243.—Cottonsect oil: International trade, calendar years 1909-1921.

[See "General note," Table 161]

Country.	Average,	1909-1913	19	019	19	020	19	921
Country:	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. China	1,000 gallons. 257 1 629	1,000 gallons. 281 476 38,968	1,000 gallons. 5 3,707	1,000 gallons. 3,430 67 25,751	1,000 gallons. 30 1,261	1,000 gallons. 1,606 427 24,634	1,000 gallons. 4 89	1, 000 gattons. 3, 001 506 33, 673
Algeria. Australia. Australia. Australia. Australia. Belgium Brazil. Canada. France. Germany. Italy. Malta. Martinique. Moxico. Netherlands. Norway. Rumana. Senegal. Serbia. Sweden. United Kingdom. Other countries.	364 142 2, 251 624 2, 817 3, 289 6, 918 4, 600 265 265 263 3, 607 5, 352 2, 336 6, 333 4, 502	157 1,086 4 2 335 1 4 27 311 52 (6) 1 3 7,189 6	134 29 446 11 5,515 1,303 1,005 5,837 1,584 41 1,287 8,035 2,266	316 656 11 43 1,709 1,709 2,930 1,028	62 80 3 393 720 21 6,091 2,677 4,029 2,602 2,826 15	1.09 1,013 84 1 731 731 130 5,162 1,069	3 61 563 1 5, 865 1, 295 3, 936 10, 897 1, 499 5, 432 2, 059	225 1,416 113 1 2,153 2,153
Total	44, 498	48, 929	31, 295	35, 983	26, 269	35,017	31,701	44, 273

Three-year average.
 Four-year average.

⁸ Austria only. ⁴ One year only.

[•] Two-year average. • Less than 500 gallons.

TOBACCO.

Table 244.—Tobacco: Area and production in undermentioned countries, 1909-1922.

		A1	ea.			Produ	ection	
Country	Average, 1909–1913.	1920	1921	1922 1	Average, 1909–1913.	1920	1921	1922 1
NORTHERN HEMI- SPHERE.								
NORTH AMERICA	1,000 acres.	1,000 acres.	1 000 acres.	1,000 acres	1,000 pounds.	1,000	1,000	1,000
Canada Umted States 3 Mexico	² 14 ² 1, 148	53 1,960	1,435	1,763	14, 634 996, 176 34, 711	pounds 48,089 1,582,225	pounds. 1,075,418 14,436	1,330,2
CENTRAL AMERICA AND WEST INDIES.								
Guatemala Cuba Dominican Republic Porto Rico Jamaica	5 18 2 1	42			674 57, 490 29, 200 12, 700 418	126, 577 50, 044 25, 340	40, 300 14, 990	30, 40 4 15, 00
EUROPE.								
Sweden 3 Denmark Netherlands Belgum 8 France 3 taly 5 Switzerland 7 Jermany 3 Austria "zechoslovakia Hungary Yugoslavia 3 Seroia, Croatia Slavonia and Bosnia Herzegovina 3 Greece Bulgaria 3 Rumania 3 Russia, including Ukraine and Northern Caucasia	5 1 5 1 2 10 2 6 39 2 19 2 6 39 2 6 9 6 7 120 2 6 5 6 38 2 6 24 2 6 25 6 172	1 7 29 20 1 32 3 51 31 86 95 58	1 7 32 48 1 25 3 49 36	1 5 19 1 4	1,657 219 1,829 20,741 6 45,272 22,120 1,444 6 66,536 6 14,169 6 143,123 6 13,928 5 28,021 6 15,220 6 16,426	1,690 13,485 46,031 28,260 860 65,984 3,891 17,196 68,500 61,604 37,700	1,440 10,190 52,580 43,150 820 65,980 42,620 20,660 463,777 87,040 23,120	7,0.7.
AFRICA.								
Algeria 3 Pupis	7 21	32 1	54 1	27 1	23, 974 8 259	24,650 671	49,630 880	
ASIA.		1						
ndia, British British North Borneo, Seylon	2 1,026 7 14	1,101	13	13	450, 000 2, 891 7 4, 273			51, 69
apanese Empire: Japan Chosen Formosa	² 72 ⁷ 16 ² 1	93	**********		93, 717 7 29, 737 1, 120	137, 194 34, 190 1, 480	132, 280	
Russia, Asiatic Philippine Islands 3	2 6 37 7 155	250	225		63, 939 63, 907	143,064	116, 400	

¹ Figures for 1922 and 1921-22 compiled from reports received up to Nov. 15, 1922.
2 Three-year average.
2 Countries reporting for all periods given except 1922 either as listed or as part of some other country.
4 Commercial source.
5 One year.
6 Old boundaries.
7 Two-year average.

Table 244.—Tobacco: Area and production in undermentioned countries, 1909-1922— Continued.

		Λı	ea			Produ	iction.	
Country	Average, 1908-09 to 1912-13.	1919–20	1920-21	1921-221	Average, 1908-09 to 1912-13.	1919-20	1920-21	1921-221
Southern Hemi- sphere.								
Chile. Brazil Uruguay 4 Paraguay Argentina	1,000 acres. 2 2	1,000 acres (8) 1	1,000 acres.	1,000 acres. 2	1,000 pounds. 3,377 59,991 22,371 213,000 28,568	1,000 pounds. 2,641 480	1,000 pounds. 191,000 1,764 24,900	1,000 pounds. 4,450 116,610 21,280 18,300
AFRICA. Union of South Africa Rhodesia i Nyasaland OCEANIA.	² 19 ⁷ 5 ² 7	26 10 3	8	9 21	5 13, 789 901 2, 416	14, 073 2, 948 4, 000	6 16,621 3,747	12,110 1,980 6,740
Dutch East Indies: Java and Madura. Sumatra, east coast Australia. Fiji	432	2	47		117, 180 46, 699 1, 837 42	60	6 27, 735	
Total 4	1,495	2,527	2,015		1,290,673	2,029,177	1,551,839	
Total all coun- tries reporting	3, 551	4,010	2, 129		2,760,645	2, 545, 927	2,081,378	

¹ Figures for 1922 and 1921-22 compiled from reports received up to Nov. 15, 1922. ² Three-year average. ³ Less than 500.

Table 245.—Tobacco: World production as far as reported, 1900-1921.

-	7	1	I	11		11	
Year.	Production.	Year.	Production.	Year.	Production	Year.	Production.
					4 404 0 -1 4440-4440-441	~	
1900 1901 1902 1903 1904		1906 1907 1908 1909 1910 1911	Pounds. 2, 270, 298, 000 2, 391, 061, 000 2, 382, 601, 000 2, 742, 500, 000 2, 833, 729, 000 2, 566, 202, 000	1912 1913 1914 1915 1916 1917	Pounds. 1,274,319,000 2,149,258,000 2,254,087,000 2,153,395,000 1,517,867,000 1,766,760,000	1918 1919 1920 1921 1922	Pounds. 2, 138, 274, 000 2, 178, 382, 000 2, 545, 927, 000 2, 081, 378, 000

⁴ Countries reporting for all periods given except 1922 either as listed or as part of some other country.

⁵ Four-year average. ⁶ Commercial source.

⁷ One year.

Table 246.—Tobacco: Acreage, production, value, condition, etc., in the United States, 1849-1922.

[See note for Table 153.]

	****			L		1 10010 100.,					
Year.	Acre-	A ver- age yield	Produc-	Aver- age faim price	Farm value	Domestic exports of unmanu- factured.	Imports of un- manufac- tured,	Con		of gro	owing
2 (01)	age.	pei acre	tion.	per pound Dec. 1	Dec 1.	fiscal year beginning July 1.	fiscal year beginning July 1.	July 1.	Aug 1	Sept.	When har- vested.
1849 1859	1,000 ac169.	Lbs.	1,000 pounds. 199,753	Cts	1,000 dollars.	Pounds.	Pounds.	P.ct.	P.ct.	P.ct.	P. ct.
1869 1879 1889	6.39 695	793 1 658.5	434, 209 262, 735 506, 663 457, 881	6. 0 6. 9	30,200 31,696			100. 0 88. 0 89. 9	92 7 77.0 84.4	78 1 87.0 76.2	83 7 80. 7
1899 1900 1901 1902	1, 102 1, 046 1, 039 1, 031 1, 038	728 5 778.0 788.0 797.3 786.3	802, 397 814, 345 818, 953 821, 824 815, 972	7. 1 6. 6 7. 1 7. 0 6. 8	57, 273 53, 661 58, 283 57, 564 55, 515	315, 787, 782 301, 007, 365 368, 184, 084 311, 971, 831	26, 851, 253 29, 428, 837 34, 016, 956 31, 162, 636	83 7 88. 5 86 5 85 6 85. 1	80 0 82.9 72.1 81 2 82 9	84. 0 77. 5 78. 2 81 5 83 4	81 9 76. 1 81. 5 84 1 82 3
1904 1905 1906 1907	806 776 796 821 875	819. 0 815. 6 857 2 850. 5 820. 2	660, 461 633, 034 682, 429 698, 126 718, 061	8 1 8.5 10.0 10 2 10.3	53, 383 53, 519 68, 233 71, 411 74, 130	334, 302, 091 312, 227, 202 340, 742, 864 330, 812, 658 287, 900, 946	33, 288, 378 41, 125, 970 40, 898, 807 35, 005, 131 43, 123, 196	85 3 87 4 86.7 81 3 86.6	83. 9 84. 1 87. 2 82 8 85 8	83.7 85.1 86 2 82.5 84.3	85 6 85.8 84 6 84 8 84 1
1909 1910 1911 1912 1913	1, 295 1, 366 1, 013 1, 226 1, 216	814. 8 807. 7 893. 7 785. 5 784. 3	1, 055, 133 1, 103, 415 905, 109 962, 855 953, 734	10 1 9.3 9.4 10 8 12.8	106, 374 102, 142 85, 210 104, 063 122, 481	357, 196, 074 355, 327, 072 379, 845, 320 418, 796, 906 449, 749, 982	46, 853, 389 48, 203, 288 54, 740, 380 67, 977, 118 61, 174, 751	89 8 85 3 72 6 87.7 82.8	83.4 78.5 68.0 82.8 78.3	80. 2 77. 7 71. 1 81 1 74. 5	81 3 80 2 80. 5 81. 8 76 6
1914 1915 1916 1917 1918	1,224 1,370 1,413 1,518 1,647	845.7 775.4 816 0 823.1 873.7	1, 034, 679 1, 062, 237 1, 153, 278 1, 249, 276 1, 439, 071	9. 8 9. 1 14. 7 21. 0 28. 0	101, 411 96, 281 169, 672 300, 449 402, 264	345, 346, 091 443, 293, 156 411, 598, 860 259, 170, 686 629, 287, 761	45, 764, 728 48, 013, 335 46, 136, 347 79, 367, 563 83, 951, 103	66 0 85 5 87.6 86.8 83.1	66. 5 79. 7 84. 4 88. 1 83. 6	71. 4 80. 7 85. 5 84. 5 82. 4	81. 8 81 9 85. 6 87. 8 87. 4
1919 1920 ¹ 1921 1922 ²	1,951 1,960 1,427 1,725	751 1 807 3 749.6 768 0	1, 465, 481 1, 582, 225 1, 069, 693 1, 321, 840	39. 0 21. 2 19. 9 23 1	570, 868 335, 675 212, 728 306, 179	648, 037, 655 506, 526, 449 462, 797 , 351	91, 005, 182 58, 923, 217 65, 225, 437	83.6 84.3 71.9 82.4	75. 1 84 1 66. 6 80. 9	71.8 84 6 70.5 76.2	73 6 83. 3 75 6 78. 9

¹ Figures adjusted to census basis.

Table 247.—Tobacco: Arreage, production, and total farm value, by States, 1921-22.

State.	Thousand	ls of acres.		(thousands unds).	Total value, basis Dec. 1 price (thousands of dollars).		
	1921	1922 1	1921	1922 1	1921	1922 1	
Massachusetts. Connecticut New York Pennsylvania Maryland	10 31 2 42 26	9 28 2 43 35	13, 700 45, 074 2, 500 61, 320 18, 590	11, 925 35, 000 2, 200 56, 760 26, 950	4, 932 18, 480 482 8, 830 3, 532	3, 578 9, 450 814 9, 082 4, 582	
Virginia. West Virginia. North Carolina. South Carolina. Georgia	167 8 450 80 14	209 9 515 90 11	91, 850 6, 000 252, 450 50, 400 7, 896	156, 750 7, 425 306, 940 57, 600 5, 940	18, 829 1, 446 65, 637 5, 544 1, 974	37, 620 1, 634 93, 003 13, 248 1, 544	
FloridaOhio IndianaWisconsin	4 42 14 48	3 52 18 40	3, 600 38, 640 12, 250 61, 488	3, 300 46, 800 16, 200 45, 600	1, 440 5, 796 1, 838 7, 686	1, 551 8, 892 2, 754 9, 120	
Missouri. Kentucky. Tennessee. Louisiana.	3 385 100 1	5 525 130 1	2, 775 325, 710 75, 000 450	4,500 446,250 94,250 450	555 50, 485 15, 000 248	1, 305 87, 019 20, 735 248	
Umted States	1, 427	1,725	1, 069, 693	1, 324, 840	212, 728	306, 179	

² Preliminary estimate.

Table 248.—Tobacco: Acreage, yield per acre, production, and price to producers, 1920, 1921, and 1922, by types and districts.

		A	cres	(in the	nisand	is).	Yie	dd per :	cre (in pe	ounds).
Type and distric	d.	192	0	1921		1922 2	19	20	1921	1922 2
Cigar types: New England New York Pennsylvania Ohio, Miami Valley Wisconsin. Georgia and Florida.			10 2 43 40 50 6	AND THE PARTY OF T	41 2 42 30 48 5	37 2 13 35 40 4	1 1	, 498 , 280 , 510 932 , 218 , 057	1, 433 1, 250 1, 460 956 1, 281 942	1, 268 1, 100 1, 320 898 1, 140 1, 090
Total, cigar types			181	1	.68	161	1	, 290	1, 297	1, 164
Chewing, smoking, snuff, types: Burley Paducah Henderson One Sucker Clarksville and Hopkinsv Virginia Sun Cured Virginia Dark. Old Bright. New Bright. Maryland and Eastern O	ulle		356 90 75 67 145 12 57 480 436 41	1 3 3	59 59 49 34 08 7 40 33 29 28	316 93 80 58 145 9 53 390 370		886 775 820 802 764 754 800 665 715 900	854 826 805 805 777 575 615 523 600 731	860 789 900 864 736 775 815 618 629
Total, chewing, smoking export types			759	1, 2	46	1,551		758	678	727
All other			20 1		13	13	-	770	567	816
Aggregate			060	1, 1	27	1, 725	8	07.3	749.6	76%. O
Type and district.	Product	ion (in the pounds).	,	1ds of	Pri po 1920	ee (in cor pour	ents d). ¹	Valu	e (in those of dollars	1922 1
Cigar types: New England New York Pennsylvania Ohio, Miami Valley Wisconsin Georgia and Florida Total, cigar types. Chewing, smoking, snuff,	59, 900 2, 560 64, 930 37, 282 62, 400 6, 340 233, 412	58, 774 2, 500 61, 320 28, 814 61, 188 5, 040 217, 936	34	46, 925 2, 200 56, 760 31, 090 45, 600 4, 850	66. 5 27. 0 12. 0 25. 0 13. 9 53. 0	39. 8 19. 3 14. 1 13. 0 12. 5 40. 0 21. 2	27. 8 37. 0 16. 0 15. 0 20. 0 50. 0	39, 834 691 7, 792 9, 320 8, 674 3, 360	23, 412 482 8, 830 3,746 7, 686 2, 016 46, 172	13, 028 814 9, 082 4, 664 9, 120 2, 425 39, 133
and export types: Burley Paducah Henderson One Sucker Clarksville and Hopkinsville Virginia Sun Cured Virginia Dark Old Bright New Bright Maryland and Eastern Ohio Export	315, 259 69, 750 61, 500 53, 727 110, 790 9, 048 45, 600 319, 112 311, 718 36, 917	220, 849 49, 045 42, 645 27, 630 83, 896 4, 025 24, 600 174, 202 197, 220 20, 273	10 4 24 23	71, 710 73, 805 72, 000 50, 447 96, 140 6, 975 33, 195 10, 681 12, 649 29, 200	13. 4 9. 5 8. 8 7. 0 11. 6 10. 0 9. 9 21. 7 20. 6 18. 6	22. 4 13. 0 14. 0 12. 0 16. 7 19. 0 18. 7 23. 2 20. 4	25. 0 13. 2 15. 0 13. 0 17. 3 18. 5 19. 0 29. 0 25. 6	42, 283 6, 653 5, 411 3, 752 12, 819 905 4, 514 69, 308 61, 079 6, 879	45, 450 6, 375 5, 970 3, 316 13, 999 765 4, 600 40, 547 30, 208 3, 852	67, 925 9, 742 10, 800 6, 558 18, 358 1, 290 8, 207 69, 913 66, 412 5, 548
Total, chewing, smok- ing, snuff, and ex- port types	1, 333, 421	844, 385	==	6, 802	16. 2	20.0	23. 5	216, 603	165, 082	264, 753
All other	15, 392	7,372	1	0, 613	16.0	20 0	22.5	2,463	1,474	2, 293
	1,582,225	1,069,693	,	4,840	18.2	19.9	23. 1	288, 737		306, 179

¹ Prices based on reported sales so far as available: 1922 prices subject to ravision 2 Preliminary activates

Table 249.—Tobacco: Foreasts of production, monthly, with preliminary and final estimates.

Year.	July.	August.	September.	October.	November production estimate.	Final estimate.
1912	1,000 pounds. 1,009,000 926,000 756,961 1,104,709 1,191,326 1,226,912 1,187,123 1,453,102 1,500,800 932,157	1,000 pounds. 980,000 896,000 791,379 1,082,644 1,196,659 1,270,056 1,228,081 1,335,052 1,544,489 889,266	1,000 pounds. 976,000 861,000 862,473 1,120,149 1,223,572 1,221,186 1,218,165 1,279,012 1,553,812 948,324	1,000 pounds. 974,000 877,000 954,245 1,098,804 1,203,077 1,243,023 1,265,362 1,278,062 1,478,788 991,564	1,000 pounds. 959,437 903,875 982,715 1,050,025 1,145,530 1,185,478 1,266,686 1,316,553 1,476,444 1,020,874	1,000 pounds. 962,855 953,734 1,034,679 1,062,237 1,153,278 1,249,276 1,439,071 1,465,431 1,582,225 1,069,693
Average	1, 128, 809	1, 121, 363	1, 126, 369	1, 136, 392	1, 130, 762	1, 197, 253
1922	1, 414, 641	1,424,622	1, 352, 637	1, 355, 456	1, 330, 275	1 1, 324, 840

¹ Preliminary estimates

Table 250.—Tobacco: Condition of crop, United States, on 1st of months named, 1901–1922.

Year.	July.	Aug.	Sept.	Oct.	Year.	July.	Aug.	Sept	Oct.
1901 1902 1903 1904 1905 1906 1907 1907 1908 1909	P.ct. 86. 5 85. 6 85. 1 85. 3 87. 4 86. 7 81. 3 86. 6 89. 8 85. 3 72 6	P.ct. 72 1 81.2 82.9 83.9 84.1 87.2 82.8 85.8 85.4 78.5	P.ct. 78 2 81.5 83.4 83.7 85 1 86.2 82.5 84.3 80.2 77.7	P. ct. 81 5 84 1 82.3 85 6 85.8 81.6 84.8 84.1 81.3 80.2	1912 1913 1914 1915 1916 1917 1918 1919 1920 1921	P. ct 87 7 82. 8 66. 0 85. 5 87 6 86. 8 83. 1 83. 6 84. 3 71. 9 82. 4	P.ct. \$2.8 78.3 66.5 79.7 84.4 88.1 83.6 75.1 84.1 86.6 80.9	P. ct 81.1 74.5 71.4 80.7 85.5 84.5 82.5 71.8 84.6 70.5	P. ct. 81. 8 76. 6 81. 8 81. 9 85. 6 87. 8 87. 4 73. 6 83. 3 75. 6

Table 251.—Tobacco: Yield per acre, price per pound December 1, and value per acre, by States.

The way recognish seen	Y	ield p	er se	re (po	unds)				Fari	n pr	ice p	er pe	ound	(cen	ıts).			Value per acre (dollars).1		
State.	5-year a v er- age, 1918-1922.	1918	1919	1920	1921	1922	10-year aver- age, 1913-1922.	1913	1914	1915	9161	1917	8161	1919	1920	1921	1922	5-year a v e r - age, 1917-1921.	1922	
Mass Conn N. Y Pa Md	1,450 $1,234$	1,500 1,500 1,250 1,420 830	1,565 1,290 1,320	1,480 1,280 1,510	1,454 1,250 1,460	1,250 $1,100$ $1,320$	31.5 19.2 14.2	21.0 12.2 7.5	18. 5 12. 0 8. 5	17.0 9.5 9.2	27.0 13.0 14.2	38.4 22.0 21.0	18.0 14.0	$\frac{46}{22.5}$	35.0 27 0 20.0	41.0 19.3 14.4	27. 0 37. 0 16. 0	607. 27 275. 42 245. 73	397. 50 337. 50 407. 00 211. 20 130. 90	
Va W. Va N. C S. C Ga	666 759 634 672 607	720 705 720	700 616 722	800 694 650	750 561 630	825 596 640	23. 2 26. 3 17. 0	18.5 13.8	11.0 11.5 9.7	10.0 11.2 7.0	15.0 20.0 14.0	26.0 31.5 23.1	36.6 35.1 31.1	50.0 53.6 22.8	25.0 25.3 15.0	24 0 26 0 11.0	22. 0 30. 3 23. 0	186. 51 240. 30 219. 51 143. 87 282. 99	181.50 180.59 147.20	
Fla Ohio Ind Wis Mo	881	980 930 1,330	860 800	900 1,248	920 875 1,281	900 900 1,140	16.7 16.2 16.2	11.4 11.0 12.0	8.8 9.0 11.0	9.0 7.3 6.0	13.0 13.0 12.5	25. 0 20. 0 17. 5	19.5 20.7 22.0	33.7 35.2 22.2	13.0 14.0 25.9	15.0 15.0 12.5	19 0 17.0 20.0	490.07 196.74 184.27 246.58 259.86	171.00 153.00 228.00	
Ky Tenn La	861 763 451	800 420	810 434	730 500	750 450	725 450	15.8 43.3	8. 4 25. 0	7. 5 35. 0	6.3 30.0	10. 1 28. 0	17.0 35.0	21.4 65.0	25. 1 65. 0	20. 0 40. 0	20 0 55.0	22.0 55.0	16T. 64 225 02	165. 75 159. 50 247. 50	
U. S	789.9	873.7	751.1	807.3	749.6	768.0	20.2	12.8	9.8	9.1	14.7	24.0	28, 0	39.0	21.2	19.9	23.1	211.02	177.50	

Table 252.—Tobacco: Extent and causes of yearly crop losses, 1909-1921.

Year.	Deficient moisture.	Exceesive moisture.	Floods.	Frost and freeze.	Hail.	Hot winds	Storms.	Total cli- matie.	Plant dis- ease.	Insect pests.	Anımal pests.	Defective secd.	Total.
1909	P-ct. 5 5 4 8 16 7 7 6 15 3 18 1 3.9	P.ct. 6 8 6 8 .9 4 8 .7 .2 8 2	P.ct. 1.1 1.2 .8 .4 .1	P ct 0 7 .1 .5 1 2 .4 1.2	P.ct. 0.8 3 1 1 0 1 2 .6 .8	P. ct 0 1 (1) -6 -2 -3 -3	P. ct. 0 2 1 2 6 .1 9	P ct 15 3 11 4 19 5 15 3 20 0 20 1 16.3	P. ct. 0 7 7 .3 .7 .1 (1)	P.ct. 26 28 10 28 30 27 40	P ct.	P ct (1) 0 1 .2 1 (1) .1 .1	P ct. 19 6 20 6 22 6 21 2 25 0 24 8 23 5
1916. 1917. 1918. 1919. 1920. 1921. Average	3 5 3 3 8 6 8 9 2 3 18 9	5.5 2.2 .4 79 70 22	1.3 .5 .2 .6 .6 .1	1 3 3 3 .7 .2 .7 .3 9	1.0 1.2 1 1 1 1 1 0 7	.1 .2 .1 .0 .4 .2	.8 .2 .2 .2 .1 .2	14 0 11.1 11.4 19.2 11 7 22 9	.3 .2 .3 .6 5 5 1 6	2.8 2.1 2.1 2.8 2.6 3.2 2.7	0	(1) .1 .1 (1) 0 0	18.4 15.2 14.2 23.0 21.0 28.2 21.3

¹ Less than 0 05 per cent

Table 253.—Tobacco: Wholesale price per pound, 1907-1922.1

	Ho	pkinsvi	ille.	L	ouisvill	e.	R	ıchmon	d.	В	altimor	e.
Date.	Leaf	af, common to fine.		Leaf red), co	(burley,	dark o good.	Leaf, s	inokeis on to fir	', com- ie.	Leaf mediu	(Maryli m to fii	and), ne red.
	Low.	High.	Aver- age.2	Low.	High.	Aver- age.2	Low.	High.	Aver-	Low.	High.	Aver- age.2
1907		Cents. 16, 00 20 00 14, 00 17, 50 18 00 16, 00	Cents. 11, 19 12, 75 9, 85 11, 09 12, 10 11, 69	Cents. 6, 50 9, 00 12, 00 8, 00 6, 00 7, 00	Cents. 14, 50 19, 00 18, 50 17, 00 12, 75 13, 00	Cents. 10, 65 13, 67 15, 35 13, 55 9, 39 9, 62	Cents. 8. 00 8. 00 7. 00 7. 00 7. 00 7. 00	Cents. 13, 00 13, 00 13, 00 13, 00 13, 00 15, 00	Cents. 10, 50 10, 50 10, 28 10, 00 10, 00 10, 83	Cents. 6, 50 6, 50 8, 50 8, 50 8, 50 8, 50 8, 50	Cents. 12, 00 13, 00 13, 00 13, 00 13, 00 15, 00	Cents. 9. 48 9. 85 10. 75 10. 75 10. 75 11. 00
1913. 1914. 1915. 1916. 1917.	7.00 7.50 4.00 5.00 10.00	14. 00 14. 00 12. 50 11. 50 20. 50	11. 02 11. 05 8. 08 9. 45 13. 61	7.00 9.00 8.00 10.00 13.00	16, 00 16, 00 15, 00 19, 00 32, 00	11, 23 12, 71 11, 88 13, 33 20, 71	7. 00 7. 00 6. 00 6. 00 9. 00	20, 00 20, 00 18, 00 20, 00 30, 00	11.58 13.40 11.07 11.66 17.06	8, 50 8, 00 8, 00 9, 00 17, 00	15, 00 15, 00 14, 00 21, 00 28, 00	11. 75 11. 46 10. 83 14. 69 22. 21
1918 1919 1920 1921 1922	14. 00 12. 14 14. 00 8. 00 10. 00	25, 00 36, 50 53, 00 55, 00 40, 00	18. 63 23. 68 27. 02 24. 47 23. 81	25, 00 10, 00 13, 00 7, 00 12, 00	44, 00 48, 00 42, 00 30, 00 35, 00	34, 34 26, 92 27, 05 17, 83 22, 12	16. 00 15. 00 10. 00 7. 00 7. 00	45, 00 45, 00 37, 00 30, 00 16, 00	23, 62 27, 31 23, 56 12, 66 11, 10	22, 00 26, 00 25, 00 18, 00 18, 00	49, 00 53, 00 58, 00 58, 00 50, 00	33, 56 37, 22 41, 19 30, 52 32, 83
1922. January. February. March. April.	12.00 12.00 12.00 10.00	38, 50 40, 00 37, 50 35, 00	24, 83 24, 69 23, 80 22, 00	16.00 14.00 14.00 14.00	30, 00 30, 00 30, 00 30, 00	23. 50 22. 25 22. 00 22. 00	7. 00 7. 00 7. 00 7. 00 7. 00	11.00 14.00 14.00 14.00	10, 50 10, 50 10, 50 10, 50	18, 00 18, 00 18, 00 18, 00	45, 00 45, 00 45, 00 45, 00	31. 50 31. 50 31. 50 31. 50
May June July August		1		14.00 14.00 12.00 12.00	30, 00 30, 00 30, 00 30, 00	22.00 22.00 21.20 21.00	7. 00 7. 00 7. 00 7. 00	16, 00 16, 00 16, 00 16, 00	10.75 11.50 11.50 11.50	18, 00 18, 00 18, 00 18, 00	45. 00 50. 00 50. 00 50. 00	31, 50 32, 50 34, 00 34, 00
September October November December		35, 50	23. 75	12.00 12.00 12.00 18.00	30. 00 30. 00 30. 00 35. 00	21.00 21.00 21.00 26.50	7. 00 7. 00 7. 00 7. 00	16.00 16.00 16.00 16.00	11.50 11.50 11.50 11.50	18.00 18.00 18.00 18.00	50. 00 50. 00 50. 00 50. 00	34. 00 34. 00 34. 00 34. 00

¹ Compiled from Western Tobacco Journal, Richmond Grain Exchange Price Current, and Baltimore Daily Price Current.

Table 254.—Tobacco (unmanufactured): International trade, calendar years 1909-1921. [Tobacco comprises leaf, stems, strippings, and tombac, but not snuff See "General note," Table 161.]

							·	
Country.	Average,	1909–1913.	19	919	19	020	19	21
country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING	4 000	4 000						
COUNTRIES.	1,000	1,000	1,000	1,000	1,000	1,000	1.000	1,000
Algeria	pounds. 4,776	pounds. 11,681	pounds. 3,941	pounds. 25, 518	pounds. 6, 408	pounds.	pounds.	pounds.
Brazil	620	59, 991	1,476	93, 862	2,176	23, 724 67, 376	6,777	21, 896 71, 718
British India	6,538	28, 874	9, 404	44,610	10, 121	36,379	2,024 7,281	30, 987
Bulgaria	(1)	4, 310	0, 202	16, 216	10,121	38, 793	1,201	00,001
Ceylon		4,093	2	1,739	4	38, 793 3, 590	3	2,411
Cuba	141	38, 035		36, 326	(1)	28, 058		
Dominican Republic.		22, 395		44, 758		36, 225		
Dutch East Indies Greece	8,074	163, 823	279	299, 133	322	274, 379	491	100, 250
Mexico.	12, 024 1, 845	18,113	282	59, 351	157	59, 276	443	57,750
Paraguay	1,040	11, 361		99 750		18,963		
Persia.	797	3,874	634	22, 759 3, 721	230	2,550		
Persia Philippine Islands	45	26,018	283	48, 564	763	45,578	312	49, 270
Russia	1.084	23, 283				10,0.0	012	10, 210
Umited States	52, 768	381, 127	85, 986	776,678	82, 221	479,900	52,994	522,756
PRINCIPAL IMPORTING COUNTRIES.						·		,
Aden	11,619	7, 739	3, 593	5, 830	9,603	6,452		
Argentina	14, 988	41	18, 967	2,994	0,000	17, 434		15,646
Australia	13, 740	(1)	16, 225	_,,,,,	21, 955	(1)		10,010
Ausrtia-Hungary	49, 984	23, 192			2 14, 461	2287	2 24, 108	2 422
Belgium	22,094	33	30, 096	66	36, 400	419	35,980	220
Canada	17, 891	433	24, 891	1,506	21, 121	778	19, 925	884
China Denmark	15,113 8,774	25, 187 100	21,310	49, 044	30, 310	36,982	29, 501	26,891
Egypt	19,005	100	30,688 18,028	499 310	15, 900 19, 287	76 244	7, 147 17, 394	13
Egypt. Fulland.	9, 597		5, 493	310	4 947	244	2,876	10
France.	63, 914	26	108, 153	375	4, 947 76, 615	971	84, 207	2,599
Germany	168, 137	116			496, 162	924	0.,	-,,,,,,
Italy Netherlands	47, 732	3,008	63, 093	648	74, 246	79	63,417	
Netherlands	57, 218	3, 786	232, 655	60,048	86, 797	10, 175	64, 322	5,009
Nigeria	6,050		;;-66;-				1	
Norway	3, 994 6, 565	279	11,331 8,786	76	6,874		4,607	
Portugal Spain	51,026	218	70, 422		73,659		42,766	
Sweden	9,772	i	12, 899	(1)	12,778	110	12,100	
Switzerland	17,949	47	27,742	(1) 173 5, 997	29,003	112	5, 792	
United Kingdom	117, 956	4,603	339, 517		209, 721	4,850	211,500	5, 273
Other countries	24, 799	60, 742	34, 342	6,080	52, 131	16, 520	20, 848	8, 017
Total	846, 929	928, 609	1, 180, 518	1,606,881	1, 394, 372	1,211,204	704, 748	922, 012
Name of the second of the seco								

¹ Less than 500.

² Austria only.

APPLES.

Table 255.—Apples: Production and farm prices December 1, by States, 1918-1922.

	l m	otal crop (thousands	of bushels).	Farn	a price			ec. 1
State.	1918	1919	1920	1921	1922 1	1918	1919	(cents)	1921	19221
	1910	1919			1022			1 /207	-	1,722
Maine	2,010	4, 829	1,680	4,060	1,250	95	117	120	115	107
	1,155	1, 364	1,200	700	775	110	160	150	175	135
	990	960	993	600	960	140	175	150	195	160
	2,430	3, 187	3,575	1,125	3,010	160	200	120	210	145
	189	334	390	63	200	155	195	200	250	110
Connecticut	999	1,395	2,375	758	1,300	155	170	125	240	120
New York	40, 878	11,350	47,087	13,500	36,000	112	200	75	205	81
New Jersey	2, 463	1,666	2,942	667	2,610	160	200	120	270	95
Pennsylvania	16, 080	5,513	18,584	2,208	11,400	120	225	90	260	96
Delaware	714	606	822	68	980	125	200	95	220	90
Maryland Virginia West Virginia North Carolina South Carolina	2,034	1,519	2,600	225	1,800	110	200	78	195	90
	10,068	8,943	13,744	570	8,360	124	160	90	255	90
	5,856	4,189	8,010	420	5,625	117	180	125	260	102
	3,588	2,000	6,320	593	5,570	130	187	105	250	90
	1,407	216	410	293	383	205	280	184	230	140
Georgia	1,713	117	1,270	698	1, 135	165	245	165	200	100
Ohio	7,005	2,976	13,960	3,390	7, 298	153	262	115	225	130
Indiana	1,794	1,190	4,596	1,029	4, 148	180	267	143	230	123
Illmois	3,459	4,673	5,866	2,381	9, 720	185	230	140	250	105
Michigan	9,792	5,844	16,500	6,317	11, 850	115	220	77	195	88
Wisconsin Minnesota Iowa Missouri South Dakota	2,811	1,545	2, 250	1,050	2,024	155	220	170	242	118
	996	1,336	1, 350	900	1,020	209	250	200	260	200
	1,584	1,810	4, 410	630	4,410	206	275	191	274	117
	4,245	5,132	4, 724	480	9,400	164	190	170	255	82
	273	168	180	126	263	235	300	260	280	170
Nehraska	525	907	797	125	1,620	230	250	230	270	120
Kansas	1,503	1,835	1, 144	172	3,280	190	210	220	250	100
Kentucky	2,799	1,281	5, 022	636	5,070	170	250	160	250	130
Tennessee	4,050	1,259	4, 280	754	4,250	156	225	142	245	116
Alabama	1,662	577	1, 186	800	1,098	170	250	175	200	145
Mississippi Louisiana Texas Oklahoma	273 660	218 44 487 1,600	190 34 274 585	145 35 274 486	216 37 2,640 1,140	160 201	235 200 190 175	190 200 200 230	240 200 190 210	170 225 150 135
Arkansas	1, 290 792 2, 067	7, 164 850 30 3, 418	3,900 825 18 2,830	120 975 19 3, 200	2,400 610 45 4,250	140 210 170	170 175 350 185	110 180 140	200 150 250 170	102 100 200 75
New MexicoArizonaUtahNevada	912 138 786	1, 100 125 760 53	434 80 1,064 36	483 47 1,037 24	750 77 1,085 35	118 240 140	200 225 170 300	180 250 120 275	200 250 130 260	130 205 80 160
Idaho	1, 200	3, 800	3,420	4, 500	3,900	170	180	145	130	72
	16, 491	25, 295	21,502	29, 062	25,678	125	155	140	125	100
	3, 384	6, 921	4,158	6, 667	6,300	110	140	125	115	95
	6, 560	8, 200	6,000	6, 500	7,656	130	145	160	135	90
United States.	169, 625	142, 086	223,677	99, 002	203,628	132.8	183, 6	114.8	16%, 0	99.3

¹ Preliminary estimate.

Table 256.—Apples (commercial crop): Estimated annual production in the United States for the years 1918 to 1922, inclusive.

[By commercial crop is meant that portion of the total crop which is sold for consumption as fresh fruit. One barrel is equivalent to three boxes]

State	1918	1919	1920	1921	1922 1	State.	1918	1919	1920	1921	1922 1
Me N H Vt Mass R. I	1,000 barrels 226 122 105 300 20	1,000 barrels 675 187 203 335 65	1,000 barrels. 230 170 190 375 75	1,000 barrels. 657 110 116 172 8	1,000 barrels 232 119 128 461 12	Mo. S Dak. Nebr. Kans. Ky.	1,000 barrels. 735 3 72 333 108	1,000 barrels. 1,010 3 180 459 57	1,000 barrels 924 5 110 286 218	1,000 barrels. 30 0 17 29 31	1,000 barrels 1,250 4 130 546 169
Conn N. Y N. J Pa Del	108 5, 950 514 1, 116 186	2,975 456 759 155	215 6,500 848 1,547 219	3,300 132 221 14	108 6,000 522 1,216 213	Tenn Ala Tex Okla Ark	218 26 11 17 241	68 9 37 43 1,100	204 20 21 29 724	45 15 21 21 16	95 18 150 38 520
Md Va W Va N. C	184	177 1,653 648 92	399 1,988 1,340 250	20 80 130 25	300 1,100 881 236	Mont Colo N. Mex . Arız Utah	75 527 117 15 163	140 828 264 15 121	128 736 108 10 196	175 812 123 6 198	115 1,034 158 9 198
GaOhioIndIll	266 837 1,495	35 280 137 712 1,050	1,445 542 1,369 3,167	58 360 109 397 1, 208	95 608 277 1,620	Nev Idaho Wash Oreg Calif	112 4, 296 671 1, 127	1,008 7,167 1,357 1,200	756 5, 734 832 1, 230	1,359 8,300 1,667 1,352	975 7,104 1,260 1,200
Wis Minn Iowa	114 40 101	108 61 211	161 78 420	64 64 25	101 41 147	U.S.	24, 743	26, 159	33,905	21, 557	31,090

¹ Pieliminary estimate.

Table 257.—Apples: Total production in the United States, 1889-1922.

State.	18891	1890	1891	1892	1893	1894	1895	1896	1897	1898	18991
Me	1,690 1,994 8,494 7,553 1,412 8,391 4,440 7,592 2,113	2,025 1,520 1,224 1,026 666 8,060 3,052 736 4,256 1,122 3,840 3,900	1,000 bushels. 3,690 2,380 3,570 3,627 29,410 2,970 20,790 2,950 12,638 7,245 7,200 1,518 15,657	3,735 3,694 2,175 3,450 2,255 24,448 1,844 13,475 918 5,436 3,080 5,670 1,590	1,000 bushels. 1,575 1,585 1,782 2,040 2,175 17,138 2,240 14,190 2,449 12,640 3,780 7,370 1,148 2,889	1,000 bushels 4,455 4,262 2,623 5,500 3,266 24,516 2,394 14,144 2,550 1,212 1,594 2,494 1,414 10,791	1,000 bushels. 1,440 1,302 1,596 2,537 3,936 25,480 3,965 15,675 2,770 14,580 9,038 10,591 1,634 24,716	5, 490 5, 712 3, 008 7, 623 4, 500 54, 178 2, 376 26, 522 6, 522 4, 180 5, 130 4, 059 19, 778	1,400 1,452 2,040 2,258 19,670 2,285 14,040 2,372 14,000 6,655 7,552 1,100 7,656	2, 205 4, 274 1, 968 3, 600 3, 190 13, 156 1, 321 14, 625 1, 206 5, 670 2, 159 8, 184 4, 260	1, 422 1, 979 1, 177 3, 703 3, 709 24, 111 4, 641 24, 061 3, 151 9, 836 7, 496 4, 663 20, 617
Ind. III Mich Iowa Mo Kans Ky Tenn Ark Wash Oregon Calif	8, 784 9, 601 13, 155 5, 040 8, 698 3, 713 10, 679	3,332 4,158 7,917 3,795 7,260 3,600 3,375 4,818 1,585 1,585 1,754 3,835	9,594 8,645 8,364 5,568 9,660 6,240 10,902 8,228 2,730 1,619 2,390 7,169	2,667 2,641 8,200 3,050 4,144 1,750 7,050 6,848 2,302 611 1,104 2,070 5,544	2,889 1,179 1,450 7,210 1,920 2,808 1,425 4,320 8,192 2,702 1,632 2,909 5,284	4,050 6,384 13,041 4,355 7,708 5,280 1,764 1,972 1,616 819 1,580 2,706 5,088	12, 788 11, 692 5, 408 3, 850 14, 448 5, 270 16, 200 12, 060 5, 023 1, 146 1, 706 3, 034 7, 715	7,810 11,152 22,990 6,716 11,340 4,590 6,273 4,125 2,276 972 713 2,304 7,346	5, 840 14, 022 3, 780 5, 548 10, 528 4, 845 7, 332 8, 037 4, 522 1, 700 2, 240 4, 110 8, 069	1,500 3,717 11,816 2,765 2,352 2,000 5,088 4,205 2,911 2,058 2,227 3,300 7,486	8, 620 9, 178 8, 932 3, 130 6, 496 3, 214 6, 054 5, 388 2, 811 726 874 3, 486 5, 926
U. S	143, 105	80, 142	198, 907	120, 536	114, 773	1 34, 64 8	219, 600	232, 600	163, 728	118, 061	175, 397

¹ Census figures.

Table 257.—Apples: Total production in the United States, 1889-1922—Continued

State.	1900	1901	1902	1903	1904	1905	1906	190)7 1	908	19091	1910
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,0	00 1	,000	1,000	1,000
	bushels	bushels	bushels	bushels	bushels	bushel:	s bushe	ls busi	uls bu	shels	ushels	bushels
Me	5,000	2,550	3,780	4,170	5,600	2,800	3,80	$0 \mid 4,1$)50 1	,800	3,636	3,550
N. H	5,700	1,000	4,300	1,600	4,700 3,900	1,500	$\begin{vmatrix} 2,00 \\ 2,20 \end{vmatrix}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	100	, 500	1, 108 1, 460	1,800 2,700
Vt	3,800 6,300	1,700 1,700	3,000 6,400	1,550 3,300	5,500	1,700 2,700	3, 10	0 2,9	200 2	, 400	2,550	2,700
Mass Conn	3,800	1,100	4,700	2,000	2,900	2, 400	2,50	0 2,	200 1	,000	1,541	1,800
N. Y	47,000	11,000	41,000	46,000	55,000	21,000	1 31.00	0 28.6	100 33	3,000 3	25, 409	17,000
N. J.	2,900	1,000	4,000	3,100	3,100	2,600	2,10	0 2,2	200 1	, 300	1, 107	1,700
N. Y N. J Pa	18,000	9,000	19,000	3, 100 18, 500	25,000	+13.500	1 17.50	0 13,8	ROO 1 14	,800	1, 107	11,600
Ma	2,700	1,900	2,000	2,700	2,100	2,800	1 2,00	N) 2, (000 2	2,200 3,900 5,300	1 8338 1	2,700
Va W. Va N. C	8,500	9,500	6,700 4,300	13, 100	6,000 6,500	10,100	5,50	0 0,	700	300	6, 107 4, 225 4, 776	12, 100
M. Ag	4,200 7,400	6, 100 6, 500	6,600	3,800 6,200	6,600	5,000	4.70	0 2 6	300 7	, 100	4 776	7,100 7,200
Ga	900	700	1,000	1, 100	1,200	700	5,90 4,70 1,30	0 7	500 J	,500	896	1,400
Ohio	13.800	10,500	12,700	13,500	14,000	4,800) 1 1ti.(X)	N) 4.1	200 C	5.000	4,664	5,900
Ind	4, 500	6,500	12,700 6,300	5,800	5 900	4, 100	9,00	0 2,0	200 I 2	, 200 , 600	2,759	4,900
<u>III</u>	7,500	5,900	1.10.100	5, 100	6,000	4,500 6,300	9,00 12,10 13,70	00 1,6 00 9,3 00 3,6	500 2	3,600	3,093	800
Mich	11,800	5,200	18,000	15, 400	18,700	9 000	13,70	N) 9, 0	200 2	7,000 3,000	2,333 6,747	4, 200
Ga. Ohio Ind. Ill. Mich. Iowa.	5, 300 8, 300	2,900 10,500	18,000 6,700 11,700	4,800 6,200	6,000 18,700 7,000 9,700	3,800 6,300	7,90	n 3,	300 0	100	(1 (16)()	200 7,600
Kans	5, 300	1 6 800	5,800	3,000	4,800	3,600	20,00 7,70 9,10 7,10	0 1	180 5	5, 100 5, 700	1,356	6,600
Kv	6.400	8,300	5,800 4,700	7,100	7,000	5,700	9,10	0) 3,0	(XX) 4	E, 000	7, 369	5, 300
Tenn	6,500	7,300	1 4 600	6, 100	7,000 5,300	3 400	7, 10	00 1,6	500 E	5, 400	4,610	5, 200
Mo. Kans. Ky. Tenn. Ark. Wash.	2,900	8,300 7,300 3,300	4,000	2,400	4,000	3,200 2,500	4.30	X) 3.6	500 1	.600	2,296	2,700
Wash	1,950	1 1.870	2,300	2,600	2,700	2,500	$\begin{array}{c c} 3,00 \\ 2,70 \end{array}$	0 3,2		, 200	2,672	5,800
Oreg. Calif.	2,300 3,200	1,500 4,000	4 200	2,400 4,100	3 000	1,800 3,800	4,60	0 2,	000 4	2,600	1,931 4,935	3,800 4,600
All other	9, 980	7,180	4,000 2,300 2,200 4,200 12,250	9,760	4,000 2,700 2,600 3,900 14,130	10,820	15,62	80 8.0	030 11	1,800 1,740	15, 371	10,498
ŀ			-	<u>-</u>		-						
U. S	205, 930	135, 500	212, 330	195,680	233,630	136, 220	216,72	20 119,	560 148	3,940 1	16, 122	141,640
State.	191	1 191	2 1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
Doge.	10.	1 101	1010	1012	10117	1010	2021	10111	1.770	1020	1021	1022
				1								
	1,0	00 1,00		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Mα	bush	800 5,4	els bushel. 90 3,000	7,400	2, 160	5, 040	4, 275	2,010	4,829	1,680		
N. H	1,	600 2, 2	800	2,000	1,058	1. 596	1,035	1, 155	1,364	1,200	4,060 700	775
Vt	2.	250 2,6	700	3,200	972	1,596 3,312	1.218	990	960	993	600	960
Mass	3,	0001 3.3	00 2,300	4, 100	2,655	3, 450	2, 163	2, 430	3, 187	3,575	1,125	3,010
Conn	2, 39,	400 1,7	00 2, 100	[2,500]	1, 534	1, 776 35, 334	1, 201	999	1, 395 14, 350	2,375	758	1,300
N. Y	39,	000 44,0	00 19,500 00 2,100	49,600	25, 585 2, 331 15, 254	35, 334	16, 266	40, 878	14, 350	47,087	13,500	36,000
Pa	3, 20,	$ \begin{array}{c c} 100 & 1,7 \\ 500 & 12,7 \end{array} $	00 10 20	3,400 23,100	15 954	2, 250 18, 621	2,058 11,646	2, 463 16, 080	1,666 5,513	2, 942 18, 584	667 2,268	2,610 11,400
Md	2.	500 2,6	50 1.300	3, 500	2,400	2, 544	2, 559	2, 034	1,519	2,600	225	1,800
Va	7,	200 15,0	$ 00 $ $\delta, 200$	3,500 15,300	13, 176	13, 299	2,559 11,778	10.0681	1,519 8,943	2,600 13,744	570	8,360
Me N. H Vt Mass Conm N. Y N. J Pa Md Va W. Va N. C Ga Ohio Ind Ind Ind Mich Iowa Mo Kans Ky Tenn Ark Weeh	7,	800 10, 3	UU 1.000	11 12 4/11	2,400 13,176 7,540 5,916	13, 299 7, 752	4. 3201	5, 856 3, 588 1, 713	4, (89	8,040	420	5,625
N. C	3,	300 7,6	00 3,000	9,000 2,000 13,300 4,300	5,916	5, 5891	4,500 1,713 5,760	3, 588	2,000	6, 320	593	5,570
Ohio	18,	800 1,4 700 10,6	00 4,800	13 300	1,875 17,952	1,623 8,601	5 780	7 005	417 2, 976	1, 270	698	1, 135 7, 298
Ind.	8	900 4, 2	00 6.800	4.300	11,648	3, 360	5,760 4,836	7,005 1,794	1, 190	13,960 4,590	3,390	4, 148
m	10,	600 5,8	00 8, 200	3,700	14, 148	4,848	7,518	3, 459	4,673	5,866	1,029 2,381 6,317	9,720
Mich	12,	300 17, 2	XX 8,900	17, 200	9, 450	9, 951	4, 146	3,459 9,792	5, 844 1, 810	16, 500	6,317	11,850
Lowa	9,	500 1,5	00 7, 100	1,600	9,660	3, 573	3, 795	1 53(4)	1,810	4, 410 4, 724 1, 144	630	3 4,410
MO	11,		00 7,900	12,500	18,860	6,003	8,070	4, 245	5, 132	4,724	480	9,400
Kv	2,	400 6,7 100 9,6	$\begin{array}{c c} 700 & 2,700 \\ 600 & 6,900 \end{array}$	3,100 9,000	6, 375 12, 510	2, 268 4, 416	2,853 5,802	4, 245 1, 503 2, 799	1,835 1,281	5 000	172 636	3,280 5,070
Tenn.	2,	900 8.9	00 3,900	8,600	6.076	4, 299	4. 170	4,050	1, 259	5,022 4,280	754	4, 250
Ark	3,	000 5, 1	00 4,00	5,000	3,550 7,300	1,593	2, 574	1, 290	7, 164	3,900	120	2, 400
11 0011	n U,	500 7,7	00 6, 90	8,300	7,300	17,658	2, 574 19, 830	16, 491	25, 295	21,502	29,062	25,678
Oreg		500 4, 1	[00] 3, 50	3,600	3, 128	3,855	4, 335	3, 384	6,921	4, 158		6,300
CalifAll other	17,	790 5,7 670 18,3			4,690 22,208	6,930 14,364	6,804	6,560 15,405	8, 200 18, 174	6,000 17,205		7,656 22,373
U.S	214.	0201235, 2	220 145, 41	01253, 200	1230, 011	193, 905	166 749	169 625	142 086	1223 677	1 00 N/10	203,628
			, ,			,	.00,	,	·,	220,000	00,000	200,000

¹ Census figures.

Table 258.—Apples: Total aggregate production (bushels) in the United States, 1889—1922.

Year.	Production.	Year.	Production	Year.	Production.	Year.	Production.
1889 ¹	143,105,000 80,142,000 198,907,000 120,536,000 114,773,000 134,648,000 219,600,000 232,600,000 163,728,000	1898	118,061,000 175,397,000 205,930,000 135,500,000 212,330,000 195,680,000 233,630,000 136,220,000 216,720,000	1907	119,560,000 148,940,000 146,122,000 141,640,000 214,020,000 235,220,000 145,410,000 253,200,000	1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922.	230, 011, 000 193, 905, 000 166, 749, 000 169, 625, 000 142, 086, 000 223, 677, 000 99, 002, 000 203, 628, 000

¹ Census figures.

Table 259.—Apples: Forecasts of production, monthly, with preliminary and final estimates.

Year.	June.	July.	August.	Septem- ber.	October.	November production estimate.	Final estimate.
1915	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	bushels.	bushels.	bushels.	bushels.	b ushels.	bushels.	bushels.
	191,260	193,852	205,333	213,597	214,896	230, 011	230,011
	216,726	217,593	214,572	203,037	198,507	202, 245	193,905
	208,251	200,341	187,743	177,157	176,620	177, 733	166,749
	203,164	195,419	198,514	195,828	198,389	197, 360	169,625
	166,334	155,608	155,004	153,242	156,721	144, 429	142,086
	198,968	200,421	213,187	223,241	227,978	236, 187	223,677
	107,607	102,190	109,453	106,928	109,710	102, 290	99,002
	179,810	189,549	201,726	206,567	203,667	205, 539	1203,628

¹ Preliminary estimate.

Table 260.—Apples: Farm price, cents per bushel, on 1st of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910 1911 1912 1913	108. 0 89. 4 73. 4	117. 2 95. 8		131.8 109.2	139. 2 121. 8		115. 1 95. 2	83.9 75.0		75.5 68.0 61.8 81.0	62.4	72.1 66.3	103.0
1914	107. 1 68. 0 79. 7 101. 1	71.2	73. 2 92. 0	76. 8 91. 9	85. 4 98. 0	105.4	84. 4 108. 1	70.1	65. 1 59. 9 77. 7 107 8	58. 8 62. 0 83. 1 106. 8	69. 2 87. 6	69.0 91.2	73.3 90.5
1918	128. 8 147. 7 213. 8 118. 6 180. 6	160. 4 214. 7 128. 4	175. 4 231. 8 130. 5	201 6 260.1 134.4	142. 2	237.3 297.0	197. 7 280. 7 170. 0	174.7 198.4 171.2	162. 0 137. 4 163. 6	171. 1 132. 8	182. 8 130. 0 213. 9	183.6 114.8 168.0	184. 9 208. 1 158. 1
Average 1913-1922	121.9	128.8	137. 5	146.9	158.1	166.7	154.9	124.4	108 3	112.6	118.5	113. 8	135. 9

Table 261.—Apples: Extent and causes of yearly crop losses, 1912-1921.

							-					
Year.	Deficient moisture.	Excessive moisture	Floods.	Frost and freeze.	Haıl.	Hot winds.	Storms.	Total cli- matic.	Plant dis- ease.	Insect pests.	Anımal pests.	Total.
1912	P. ct 2. 5 10. 3 6. 5 1. 2 5. 4	P. ct. 0. 9 . 4 . 3 1. 9 3. 2	P. ct. 0.3 .4 (1) .2 .2	P ct. 10.2 25.3 6.4 15.8 9.9	P. ct. 0.7 .6 .6 .9	P. ct. 0.3 .9 .4 .1 .6	P. ct. 0.9 .6 .6 1.2 1.4	P. ct. 16. 9 39. 9 15. 1 21. 8 22. 8	P. ct 4. 2 1. 0 . 8 5. 2 5. 6	P. ct. 3. 1 5. 2 5. 0 3. 0 3. 0	P ct. 0.1 (1) .1 .1	P. ct. 32. 4 53. 5 28. 2 35. 4 38. 6
1917 1918 1919 1920 1921	4. 1 7. 5 4. 3 2. 2 5. 0	3.9 .7 2.9 .8 .7	.1 .2 .1 .2 .0	15. 2 19. 1 29 1 10 2 49. 0	1.1 .8 .6 .8	.3 1.0 .6 .2 .3	1.1 .7 1.0 .7	27. 0 30. 7 39. 1 16. 5 57. 7	4 7 4.2 5.1 4.4 3 0	2.8 2.9 2.7 1.9 1.9	.1 .2 .1 .1	44. 2 44. 9 52. 7 25. 9 65. 1
Average	4.9	1.6	.2	19.0	.8	.5	.9	28.7	3.9	3.1	.1	42. 0

Table 262.—Apples: Monthly average jobbing prices per barrel and per box, at 10 markets, 1920-21 to 1922-23.1

BARRELS.

	Septem	ber	Octob	er.	Novem-	Decem-
Market and year	Range.	Average.	Range	Average.	ber average.	ber average.
New York 1920-21		24.00	00 00 00 00	25 00	er cc	A4 ==
1920-21 1921-22	\$2.75-\$8 00 5 50-13.00	\$4.86 8.09	\$2.00-\$9.00 5.00-11.00	\$5, 23 7 72	\$5.66 7.18	\$4.71 7.82
1921-22	1 50- 7.50	3. 53	2.00- 8 50	4.63	4.94	4.67
Chicago:						1
1920-21	3, 50- 8, 00 7, 00-10 00	5. 86	3 50- 9.00 6.00-10.50	6.28 8.00	6. 29 7. 97	5. 23
1921–22 1922–23	2.00-10 00	8. 26 3. 58	2 25- 7.00	4.41	4.68	8.10 4.90
Philadelphia.	2.00- 6 00	3.38	2 20- 1.00	7. 11	2.00	4. 50
1020_21	2 00- 7.50	5.00	2.50-8 50	4.93	4, 49	4.13
1921–22 1922–23	4.50-10 50	7.44	4 00-12 00	6.63	6 57	6.65
1922–23	1.50- 5.50	3.39	2.00- 7.00	3, 65	3 86	4.13
Pittsburgh 1920–21	3.00_6.50	4, 99	3 00- 6 00	4.46	4 81	4.68
1921–22	3. 00- 6. 50 5. 25- 9 00	7, 22	5 00- 9,00	7.16	6. 55	6, 25
1922–23	2.50-4.00	3, 25	5 00- 9.00 2 50- 5.00	3. 51	3.99	4.38
St. Louis.			2	4 05	4.07	
1920-21 1921-22	3.00- 7.25	5 34	2 75- 7.50 4.85- 8.25	4.67 6.48	4, 97 5, 44	4.83
1921-22	2,00-4,85	3, 10	1.75- 4.75	3. 36	3, 15	4. 53
Cincinnati:	2.00	0.10	21.10		1	
1920-21	1 00- 6,00	5. 40	2.75- 6.00	4.63	4.45	4. 87 6. 72
1921-22	7.00- 9.00	8. 12	5,00- 8,50	7.61	6 98	6.72
1922–23 St. Paul	2 50- 1,00	3. 15	2.00- 4.75	3.32	4.15	4.41
1920-21	7 00-12, 50	8, 79	5, 50-10, 00	7.81	5, 85	5. 53
1921–22			7.00-8.50	7.37	7.73	7.97
1922-23			4.00- 6.50	5, 11	4.55	4.34
Minneapolis	0 50 11 50	0.30	11 00	0.00	7 05	- 04
1920-21	6, 50-11, 50	9 63	5. 75-11. 00 7. 50-10. 00	8, 88 8, 78	7.85 9.77	5. 84
1921–22 1922–23	3 25- 6 00	4, 73	3.50-6.50	5. 12	4. 80	8, 89 5, 05
Kansas City	ľ					1
1920-21	7 50- 9.00	8.45	5.00- 8.00	7.25	5. 95	5, 66
1921-22	10, 00-12, 00 3, 00- 4 00	11 00	3. 75- 5. 00	4.33	4.50	4. 58
1921–22 1922–23 Washington ²	5.00- 4 00	3, 62	3.75- 3.00	4.00	4. 30	4.00
1920-21	3, 50-7 50	5 90	3.00-14.00	5.74	5 46	5. 52
1921-22.	5.00-11.00	8 88	7, 50-11, 00	9. 23	8. 42	8, 12
1922-23	3.00- 5.75	3.86	2.00- 6.50	4 79	4. 76	4.42
	B	OXES.			,	
New York: 1920-21	e er or	24.40	AN OF AT TO	80.00	***	#0 00
1920-21	\$1 00-\$5, 25 2 25- 6, 00	\$1, 10 4, 06	\$2, 25-\$5, 50 2, 00- 5, 50	\$3.68 3.36	\$3 29 2,80	\$3, 88 3, 12
1920-21 1921-22 1922-23	1.50- 1.50	2.65	1, 40- 5. 25	2. 85	20.170	1 174 144
Chicago:					2.36	2, 42
1920-21	4.00- 5.25			,	2, 36	
		4 62			3.67	3, 75
1921-22			2.00 - 4.75	3, 43	3.67 3.05	3. 75 3. 00
1922-23	4 1. 00- 2. 80	\$ 1.89	2, 00 - 4, 75 1, 50- 3, 75		3.67	3, 75
1922–23 Philadelphia:			1.50~ 3.75 2.00~ 4.75	3, 43 2, 69	3, 67 3, 05 2, 48	3. 75 3. 00 2. 61
1922-23 Philadelphia: 1920-21 1921-22			1.50~ 3.75 2.00~ 4.75	3, 43 2, 69 3, 16 2, 88	3. 67 3. 05 2. 48 2. 72 2. 41	3. 75 3. 00 2. 61 2. 52 2. 49
1922-23 Philadelphia: 1920-21 1921-22 1922-23			1.50- 3.75	3, 43 2, 69 3, 16	3, 67 3, 05 2, 48	3. 75 3. 00 2. 61 2. 52 2. 49
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh:			1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50	3, 43 2, 69 3, 16 2, 88 2, 34	3, 67 3, 05 2, 48 2, 72 2, 41 1, 93	3. 75 3. 00 2. 61 2. 52 2. 49
1922-23 Philadelphia: 1920-21 1921-22 1922-23 Pittsburgh: 1920-21			1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50	3, 43 2, 69 3, 16 2, 88 2, 34 4, 26	3, 67 3, 05 2, 48 2, 72 2, 41 1, 93	3. 75 3. 00 2. 61 2. 52 2. 49
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23.			1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75	3, 43 2, 69 3, 16 2, 88 2, 34	3, 67 3, 05 2, 48 2, 72 2, 41 1, 93	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10
1922-23 Philadelphia: 1920-21 1921-22 1922-23 Pittsburgh: 1920-21 1922-22 1922-23 Cincinnati:			1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50	3, 43 2, 69 3, 16 2, 88 2, 34 4, 26 3, 22	3, 67 3, 05 2, 48 2, 72 2, 41 1, 93	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10
1922-23 Philadelphia: 1920-21 1921-22 1922-23 Pittsburgh: 1920-21 1921-22 1922-23 Cincinnati: 1922-23			1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75	3, 43 2, 69 3, 16 2, 88 2, 34 4, 26 3, 22	3, 67 3, 05 2, 48 2, 72 2, 41 1, 93	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23. Cincinnati: 1922-23. St. Paul:			1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75 1. 50- 3. 00	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 32
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23. Cincinnati: 1922-23. St. Paul:	4 1. (i) = 2. 80	º 1.80	1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75 1. 50- 3. 00	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 23
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23. Cincinnati: 1922-23. St. Paul: 1920-21. 1921-22. 1921-22. 1921-22. 1922-23.			1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75 1. 50- 3. 00	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 23 3. 63
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23. Cincinnata: 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21.	4 1. (i) = 2. 80	2.81	1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75 1. 50- 3. 00 3. 25- 3. 75 3. 00- 4. 25 1. 80- 3. 50	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 56 2. 64	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 62 2. 45
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23. Cincinnata: 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21.	2.25-3.75 42.25-2.50	2, 81 4 2, 38	1, 50- 3, 75 2, 00- 4, 75 1, 38- 5, 00 1, 25- 3, 50 3, 50- 5, 50 2, 00- 4, 75 1, 50- 3, 00 3, 25- 3, 75 3, 00- 4, 25 1, 80- 3, 50 3, 40- 4, 40	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20 3. 80	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 56 2. 64 3. 74	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 62 2. 45 3. 59
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23. Cincinnata: 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21. 1920-21.	2. 25- 3. 75 4 2. 25- 2. 50 2. 25- 4. 75	2. 81 42. 38	1, 50- 3, 75 2, 00- 4, 75 1, 38- 5, 00 1, 25- 3, 50 3, 50- 5, 50 2, 00- 4, 75 1, 50- 3, 00 3, 25- 3, 75 3, 00- 4, 25 1, 80- 3, 50 3, 40- 4, 40	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20 3. 80 3. 75	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 56 2. 64 3. 74	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 62 2. 45 3. 59
1922-23. Philadelphia: 1920-21. 1921-22. 1922-23. Pittsburgh: 1920-21. 1921-22. 1922-23. Cincinnati: 1922-23. St. Paul: 1920-21. 1921-22. 1922-23. Minneapolis: 1920-21. 1921-22. 1920-21. 1921-22. 1920-21. 1921-22. 1922-23. Kansas City:	2.25-3.75 42.25-2.50	2, 81 4 2, 38	1, 50- 3, 75 2, 00- 4, 75 1, 38- 5, 00 1, 25- 3, 50 3, 50- 5, 50 2, 00- 4, 75 1, 50- 3, 00 3, 25- 3, 75 3, 00- 4, 25 1, 80- 3, 50 3, 40- 4, 40 2, 90- 4, 75 1, 75- 3, 50	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20 3. 75 2. 50	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 50 2. 64 3. 57 2. 70	3. 753 3. 000 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 23 3. 50 3. 50 2. 45 3. 50 2. 62
1922-23 Philadelphia: 1920-21 1921-22 1922-23 Pittsburgh: 1920-21 1921-22 1922-23 Cincinnata: 1920-21 1920-21 1920-21 1921-22 1920-23 Minneapolis: 1920-21 1921-22 1922-23 Minneapolis: 1920-21 1921-22 1922-23 Minneapolis: 1920-21 1921-22 1922-23 Kansas City: 1920-21	2, 25- 3, 75 4 2, 25- 2, 50 2, 25- 4, 75 5 2, 40- 3, 37	2, 81 42, 38 3, 22 5 2, 59	1, 50- 3, 75 2, 00- 4, 75 1, 38- 5, 00 1, 25- 3, 50 3, 50- 5, 50 2, 00- 4, 75 1, 50- 3, 00 3, 25- 3, 75 3, 00- 4, 25 1, 80- 3, 50 3, 40- 4, 40 2, 90- 4, 75 1, 75- 3, 50	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20 3. 75 2. 50 3. 61	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 56 2. 64 3. 74 3. 57 2. 70 3. 60	3. 753 3. 000 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 23 3. 50 3. 50 2. 45 3. 50 2. 62
1922-23 Philadelphia: 1920-21 1921-22 1922-23 Pittsburgh: 1920-21 1921-22 1922-23 Cincinnati: 1920-21 1920-21 1921-22 1922-23 St. Paul: 1920-21 1921-22 1922-23 Minneapolis: 1920-21 1921-22 1922-23 Kansas City: 1920-21 1920-21	2. 25- 3. 75 4 2. 25- 2. 50 2. 25- 4. 75	2. 81 42. 38	1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75 1. 50- 3. 00 3. 25- 3. 75 3. 00- 4. 25 1. 80- 3. 50 3. 40- 4. 40 2. 90- 4. 75 1. 75- 3. 50 3. 00- 4. 50 2. 75- 4. 50	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20 3. 75 2. 50 3. 61	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 56 2. 64 3. 74 3. 57 2. 70 3. 60 3. 63	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 62 2. 45 3. 59 3. 77 2. 62
1922-23 Philadelphia: 1920-21 1921-22 1922-23 Pittsburgh: 1920-21 1921-22 1922-23 Cincinnati: 1922-23 St. Paul: 1920-21 1921-22 1922-23 Minneapolis: 1920-21 1921-22 1922-23 Minneapolis: 1920-21 1921-22 1922-23 Kansas City: 1920-21 1921-22	2, 25- 3, 75 4 2, 25- 2, 50 2, 25- 4, 75 5 2, 40- 3, 37	2, 81 42, 38 3, 22 5 2, 59	1, 50- 3, 75 2, 00- 4, 75 1, 38- 5, 00 1, 25- 3, 50 3, 50- 5, 50 2, 00- 4, 75 1, 50- 3, 00 3, 25- 3, 75 3, 00- 4, 25 1, 80- 3, 50 3, 40- 4, 40 2, 90- 4, 75 1, 75- 3, 50	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20 3. 75 2. 50	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 56 2. 64 3. 74 3. 57 2. 70 3. 60	3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 62 2. 45
1922-23 Philadelphia: 1920-21 1921-22 1922-23 Pittsburgh: 1920-21 1921-22 1922-23 Cincinnati: 1920-21 1920-21 1921-22 1922-23 St. Paul: 1920-21 1921-22 1922-23 Minneapolis: 1920-21 1921-22 1922-23 Kansas City: 1920-21 1920-21	2, 25- 3, 75 4 2, 25- 2, 50 2, 25- 4, 75 5 2, 40- 3, 37	2, 81 42, 38 3, 22 5 2, 59	1. 50- 3. 75 2. 00- 4. 75 1. 38- 5. 00 1. 25- 3. 50 3. 50- 5. 50 2. 00- 4. 75 1. 50- 3. 00 3. 25- 3. 75 3. 00- 4. 25 1. 80- 3. 50 3. 40- 4. 40 2. 90- 4. 75 1. 75- 3. 50 3. 00- 4. 50 2. 75- 4. 50	3. 43 2. 69 3. 16 2. 88 2. 34 4. 26 3. 22 2. 17 3. 50 3. 62 2. 20 3. 75 2. 50 3. 61	3. 67 3. 05 2. 48 2. 72 2. 41 1. 93 3. 64 2. 85 2. 00 3. 34 3. 56 2. 64 3. 74 3. 57 2. 70 3. 60 3. 63	3. 75 3. 00 2. 61 2. 52 2. 49 2. 10 2. 32 2. 05 3. 62 2. 45 3. 59 3. 77 2. 62

¹ Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.

2 Quotations began Sent % 4 Quotations began Sent %

BARRELS.

Monket and warm	January	February	March	Apri	1	Мау	•
Market and year.	average.	average	average	Range.	Average	Range	Average.
New York							
1920-21	\$4.80	\$5 01	\$6.01	\$3 50-\$10.00	\$6 79	\$4 00-\$13,50	\$8, 03
1921–22	8, 23	8 62	7 61	5.00- 12.00	7.44		
Chicago:	¥ 00						
1920-21	5. 36	5 15	5.38	4.50- 8 00	5 55	5 00- 9.00	6.53
1921-22	8 48	9.07	8. 49	6.00- 9 00	7.86		
Philadelphia: 1920-21	4.05	4, 17	4, 44	2,85- 7.00	5 07	4.00- 7.50	0.00
1920-21	7.38	7.44	7. 01	4.25- 8.90	6.64	4.00- 7.50	6.00
Pittsburgh:		****	1.01	1.20 0.50	0.01		
1920–21	4.59	4.73	5, 06	3. 25- 6. 50	5,34	4,50- 8,50	6, 31
1921-22	7.63	7.42	7.07	5.75- 8.00	7.02		
St. Louis:					l		
1920-21	4.68	4.88	5. 23	4.75- 8.50	5.92	5.50- 10.00	6, 68
Cincinnati:	4 40	4.05	F 04	105 000			
1920–21 1921–22	4. 46 7. 44	4.65 7.62	5.31 7.56	4. 25- 8. 00 6. 00- 8. 50	6.02 7.76	5.00- 7.75	6.70
St. Paul.	7. 44	1.02	7. 50	0.00- 8.00	7.70		
1920-21	5. 31	5, 69	5.87	4, 75- 7, 50	6, 39		}
Minneapolis:	0.01	0.00	0.0.	1.10 1.00	0.00		
1920-21	6.13	6, 17	6.14	6.00- 7.50	6.78	7.00- 8.25	7, 51
1921-22	8, 57	9, 56	9.87				
Kansas City:							
1920-21	5.58	5.97	5. 73	5.75- 7.00	5.91	5.75- 6.00	5, 88
Washington. 2	4.00		F 10	0.50 7.50		4 00 10 00	0.01
1920-21	4.68 8.28	4, 71 8, 24	5. 19 8. 43	3.50- 7.50 6.00- 9.00	5.56 8.38	4.00- 10.00	6.61
1921–22	8, 48	0. 44	0.40	11.00- 9.00	0.00		

BOXES.

			1	1	1		1
New York:							
1920-21	\$3.70	\$3.90	\$3.77	\$2, 50-\$6, 00	\$3.98	\$2.75-\$5.00	\$3.87
1921–22	3.01	3.35	3.41	2.75-4.75	3.54		
Chicago:							1
1920-21	3.14	3.30	3.62	2. 25- 5. 25	3.23	2, 50- 4, 50	3, 23
1921-22	3.16	3.34	3, 36	2.00-4.50	3, 45		
Philadelphia:					l		
1920-21	3.44	3.83	3.06			2.00- 4.00	3. 11
1921-22	2.77	2,96	3, 32	2. 25- 3. 75	3.13		
Pittsburgh:		1	\$	İ	1	1	1
1920-21	2.60		3.11	2, 25- 3, 75	3,04	2.25-4.00	3.18
1921-22	3.07	3.26	3.50	2, 25- 1, 50	3.13		
St. Louis:			l	1		ľ	
1921-22	2,70	3.09	2.97				
Cincinnati:			l	1			
1920-21	2, 40	1		1			
St. Paul:							
1920-21	3.09	3 54	3, 28	3.00- 3.75	3.29	3.00- 3.50	3. 27
1921-22	3, 32	3.15	3, 33	3.00- 3.50	3.26	l	
Minneapolis:					l		
1920-21	3, 18	3,45	3, 41	3,00-3,75	3.38	3,00-3,75	3, 38
1921-22	3, 46	3.39	3.57	3.00- 4.00	3, 46		
Kansas City:	3. 10	5.00					
1920–21	2.81	3, 29	3, 53	3, 50- 4, 50	4.00	3, 50- 4, 50	4 00
1921–22	3.49	3.59	3.75	3.00- 4.50	3.48		
Washington: 2	0. 10	0.00	00	1			
1921-22	3,06	3, 52	3, 44	3.00- 4.50	3.54		
1041-44	3.00	0.02	0.11	0.00	0.01		
			,	·			<u>, </u>

¹ Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.

² Sales direct to retailers

Table 263.—Apples: Monthly average wholesale prices per barrel at New York market, 1900-01 to 1922-1923.

				-					
Year.	Sept.	Oct	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.
1900–1901 1901–1902 1902–1903 1903–1904 1904–1905	1 91	\$1 97 3 62 1 97 2 43 2 03	\$2.53 4 78 2 20 2.94 1 96	\$3 10 5 00 2 00 2 71 2.25	\$2 75 5.00 2 37 2 90 2 38	\$3 15 5 06 2.59 2 97 2 44	\$3 55 4 90 2 12 3 06 2.75	\$3. 81 4 25 2. 00 3. 02 2 43	\$3 72 4.40 2 52 2 91 2 97
1905–1906 1908–1907 1907–1908 1908–1909 1909–1910	2 67 3 72	2 97 3 32 3 56 3 04 4 22	3 75 3.06 3 55 3 16 3 81	3 75 2 62 3 34 3 50 3 69	3 75 2 88 3 46 4 09 3 82	4 50 3. 25 3 52 4 53 3 21	4 82 3. 22 3. 22 4 68 3 28	6 06 3.66 3.00 5 00 3 48	5 59 5.00 2 60 5 02 3 71
1910-1911 1911-1912 1912-1913 1913-1914 1914-1915	2 66	3 65 3 06 3 06 3 44 2 22	3 75 2 71 2 75 3 75 2 78	4 14 3 12 2 62 4 00 3 12	4 12 2 84 2 71 4 06 2 80	1 50 2.96 2 78 4.79 2 91	4 75 3 39 2.70 4.75 2 84	5.35 4 20 3 12 5 34 3 56	5 31 4 00 4.00 5 14 3.65
1915-1916 1916-1917 1917-1918 1918-1919	2 38 3 30 4 08 5.38	2 95 3 38 4.44 6 03	3 12 4 18 4 94 5 98	3 06 4 60 5 10 6 31	3 05 5.00 5 00 6 50	3 19 5 38 4.88 7.88	3.33 5 91 4 92 9 55	3 12 5 53 5.75 10.00	2. 96 5 28 6 75 10. 80
1919–1920 1920–1921 1921–1922 1922–1923	6. 12 5 38 6 06 4. 16	7.81 6 25 8 10 4 62	7 55 6 33 6 91 4.48	7 50 6 38 6 80 5 50	7.00 5.40 6 62	8.06 4.88	7 50 5 56 7 67	7.08 6.32 6.98	9 25 5 38 7 06

¹ Compiled from the American Agriculturist.

Table 264.—Apples: Wholesale prices per barrel at New York market for October 15, January 1, and March 1, 1881-82 to 1922-23.

Year.	Oct.15.	Jan. 1.	Mar 1.	Year	Oct.15.	Jan. 1.	Mar. 1.	Year	Oct.15.	Jan. 1.	Mar.1

1881-82	\$3.00	\$3 00	\$2.75	1895-96	\$1.62	\$2,50	\$3.02	1909-10	\$4.00	\$4. 12	\$3. 25
1882-83	2, 25	2.88	3.40	1896-97	1.38	1 31	2.38	1910-11	3.75	4.00	4.50
1883-84	2.25	3.25	3.48	1897-98	2, 88	3.75	3.25	1911-12	3. 25	2.75	2.88
1884-85	1.38	1.88	2,85	1898-99	3,00	3.75	4.25	1912-13	3.00	2.75	2.88
1885-86	1, 50	1.94	1.56	1899-1900	2.38	2,62	3.12	1913-14	3.50	4. 25	4.88
1886-87	2.00	4.00	3.00	1900-01	1.88	3, 12	3.12	1914-15	2.50	2.88	3. 25
1887-88	1.68	2, 88	2.50	1901-02	3, 50	5, 00	5, 25	1915-16	2, 88	3.00	3.00
1888-89	2, 25	1, 88	1,38	1902-03	1.88	2. 25	2. 25	1016-17	3. 12	4.88	5.62
1889-90	2.75	3.00	3. 25	1903-04	2.50	2, 75	3.00	1917-18	4.50	5.00	5.00
1890-91	3,00	4.00	4, 25	1904-05	1.88	2, 38	2.62	1918-19	5.38	6.50	9. 25
1891-92	1.50	1.50	1.72	1905-00	3.00	3.75	4.62	1919-20	6. 75	6, 50	8. 25
1892-93	2.00	3.00	2.50	1906-07	3, 38	2, 55	3.12	1920-21	6, 75	5.00	4.25
1893-94	2, 25	3.88	4, 52	1907-08	3.75	3.38	3.50	1921-22	8, 25	6, 75	6.50
1894-95	2,00	2.50	4.00	1908-09	3, 25	3, 75	4.75	1922-23	5.00	5, 50	

¹ Compiled from the American Agriculturist,

Table 265.—Apples: Carlot shipments by States of origin, 1917-18 to 1921-22. BOXED AREAS.

State. 1917-18 1918-19 1919-20 1920-21 1921-22 Montana.... 171 3, 225 959 2,861 279 619 2,064 3, 887 615 1,984 407 636 355 441 199 735 Idaho. Washington.... 3, 528 15, 837 3, 448 1, 630 536 16, 232 2, 246 3, 473 2, 881 21, 627 3, 170 4, 503 3, 943 27, 169 5, 443 4, 153 5, 810 32, 942 6, 526 5, 068 Oregon California 27,669 25, 581 45, 591 36, 370 56, 270

¹ Shipments as shown in carlots include those by boat reduced to carlot basis

Table 265.—Apples: Carlot shipments by States of origin 1917-18 to 1921-221—Contd. BARRELED AREAS.

State	1917-18	1918–19	1919–20	1920–21	1921-22
Maine New Hampshire Massachusetts New Jersey Pennsylvana Delaware Maryland, Eastern Shore Maryland, other. Virginia West Virginia Ohio Illinois Michigan Missouri Kansas Arkansas All other.	276 358 5,867 1,001 913 349 2436 (3) 4,589 1,280 274 5,554 1,385 2,600 1,131 1,545	257 120 252 22, 900 936 1, 794 375 29 685 4, 227 2, 919 448 2, 676 2, 862 1, 167 398 1, 065 939	2, 343 507 407 10, 286 7, 277 1, 266 498 36 564 7, 075 2, 849 2, 935 2, 935 3, 435 2, 155 535 1, 008	414 249 627 33, 860 856 3, 402 751 139 1, 498 8, 762 4, 880 976 3, 471 6, 212 1, 725 738 2, 666 1, 684	4, 305 321 155 17, 806 17, 8224 122 44 99 314 801 618 445 5, 980 (4) 62 (4) 596
Total	30, 737	44,049	41, 444	72,910	32, 07
Total boxed and barreled areas	58, 406	69,630	87, 035	109, 280	88, 34
	j	1	1	i	i

Table 266.—Apples: Monthly and yearly carlot shipments by States, 1917-18 to 1922-23.1

State and year.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау	June.	Total.
New York: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23		8 23 4 101 51	19 486 169 747 970 1,356		3, 195 9, 125 5, 915	1,149 4,199 1,171 7,996 1,206 5,524	2,388 829 3,376 839	1,092	992 3,254	685 1, 130 1, 218 2, 655 1, 492	470 564 576 1,074 958	228 447 449	43 56 2 92	5, 867 22, 900 10, 286 33, 860 17, 806
Pennsylvania: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23		25 2 27 19	12 39 14 27 1 27	67	526 839 699 1,379 109 819	9	124 76 382		73 62	151	39 6 3 10 2	5 1		913 1,794 1,266 3,402 224
Virginia: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 West Virginia:	5	29 43 46	100 238 102 9	1,091 867 1,933 1,523 126 1,554	3, 143 87	1, 275 17	235 394		250 171 336 468 10	83 308 354	92 114 219	49 72	25	7,075
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23		9 23 23 63 4 28	71 90 75 18	231 504 620 744 412 451	2, 269	223 718 365 874 19 256	27	78 95 179 15	82	71	61	3 15 84 2	10	1, 280 2, 919 2, 849 4, 880 801
Illinois: 1917–18. 1918–19. 1919–20. 1920–21. 1921–22. 1922–23.	12 24 36 50 35 305	244 340 528 24	81 79 217 51	518 807	1,210 1,142 1,268 94	131 296 8	3 46 11 34 9 48	66 73 45 33	49 100 90 28 46	69 111	46 47	8 39 55 26 12	3 14 13 8	2, 935
Michigan: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23			608	1,188	2.102	175 1,300	7 175 15	2	5 4 92 6	10 4 1 70 7	1	2 1		1,385 2,862 3,435 6,212 5,980

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.
2 Includes 3 cars in July.

¹Shipments as shown in carlots include those by boat reduced to earlot basis.

² Includes Maryland "other." ³ Included in Maryland Eastern Shore. ⁴ Included in all other.

Table 266.—Apples: Monthly and yearly carlot shipments by States, 1917-18 to 1922-23 1—Continued.

State and year	June.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apı.	Мау.	June	Total.
Washington. 1917–18. 1918–19 1919–20. 1920–21 1921–22. 1922–23.		22 35 33 33 34	56 138 164 111 120 79	409 1,023 1,763 653 2,506 2,175	6,209 9,401 7,521 12,7 58	4,481 6,682 4,967 7,749	2,139 1,875 2,069 3,124	700 1,854 1,123	814 1,881	967 420 1,864 1,498 1,004	211 1,133 1,056	60 498 700	19 2 197	27, 169 21, 627
Oregon 1917–18 1918–19 1919–20 1920–21 1921–22 1922–23		2 4 1 9	4 9 10 3 11	43 59 192 36 300 98	2,340	746 1,478 1,079 1,897	$\frac{452}{1,032}$	798 260 477	128 406	335 72 232 116 111	15 108 43	80 12	i	3,448 2,246 5,443 3,170 6,526
California: 1917–18 1918–19 1918–20 1920–21 1921–22 1922–23	6 5 6 13 2	112 66 273 211 352 206	173 468 441 723 690 998	514 486 877 967 1,224 780	404 797 908 1,018 1,494 852	216 585 709 765 699 832	501 370 373 181 481	22 198 155 106 120	34 226 148 84 124	36 81 173 73 107	30 42 48 79 42	12 41 56	2 5 5 9 1	4, 153
All other: 1917-18 1918-19 1919-20 1920-21 1921-22 1922-23 Total.	36 148 61 107 3 29 536	241 612 592 854 171 1,356	638 553 899 704 295 921	1,485 1,854 3,879 2,465 3,568 3,618	4,885 10,381 8,498 9,817	1,321 4,430 3,861 2,748	1,101 299 798 991 723 1,274	420 230 378 703 310	351 178 422 486 366	521 127 379 519 122	258 29 138 134 28	32 61 50	1 3 6 18 6	17,903 10,301 22,424 19,393 18,235
1917-18 1918-19 1919-20 1920-21 1921-22 1922-23	54 178 102 163 3 77 858	1,149 1,347 1,855 1,210	2,712 3,861 3,381	8,070 12,259 11,043 13,146	26,680 32,666 37,284 35,117	14, 165 13, 563 15, 854 23, 087 14, 464 19, 512	6,320 5,301 8,875	4,044 4,393 6,046	3,679 4,419 6,698	2,063 4,378 5,695	1,006 2,229 2,819	430	99 4 359	109, 280

Shipments as shown in carlots include those by boat reduced to carlot basis.
 Includes 10 cars in July.
 Includes 1 car in May.
 Includes 15 cars in July.

Table 267.—Apples: Cold storage holdings in thousands of barrels, on 1st of each month, 1915-16 to 1922-23.1

Year.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.
1915-18. 1916-17. 1917-18. 1918-19. 1919-20. 1920-21. 1921-22. 1922-23.		1,000 barrels. 3,689 3,296 3,752 4,523 4,475 3,643 5,521	1,000 barrels. 5,441 4,492 4,689 4,928 5,923 6,787 5,739 6,743	1,000 barrels. 4,813 4,132 4,599 4,294 5,529 6,386 5,429 6,481	1,000 barrels. 4,236 3,385 3,957 3,105 4,524 5,105 4,313	1,000 barrels. 3,242 2,442 2,830 1,772 3,162 3,650 3,090	1,000 barrels. 1,984 1,545 1,783 956 1,699 2,210 1,930	1,000 barrels. 1,035 808 678 380 806 1,119 944	1,000 barrels. 304 265 159 125 213 445 314

¹ Barreled and boxed apples combined, 3 boxes equivalent to 1 barrel.

PEACHES.

Table 268.—Peaches: Production and farm prices, by States, 1918-1922.

State	To	otal crop (thousands	of bushels).	Farm		per bu cents)	shel Se	pt. 15
	1918	1919	1920	1921	1922 1	1918	1919	1920	1921	1922 1
New Hampshire. Massachusetts. Rhode Island. Connecticut. New York.	0 0 700	39 213 29 195 1,262	0 4 3 10 2,600	29 185 9 290 1,700	32 200 28 262 3,400	310	210 220 350 250 270	400 400 415 425 225	317 357 357 371 255	248 262 270 285 110
New Jersey Pennsylvania Delaware Maryland Virginia	832 720 136 235 510	1,653 1,100 227 564 682	2, 134 2, 000 203 692 1, 092	347 350 7 59 52	2,000 1,560 320 495 764	280 275 240 240 180	270 300 190 190 200	220 250 225 210 185	335 345 300 300 300	185 180 80 170 170
West Virginia. North Carolina. South Carolina. Georgia Florida.	680 1, 150 998 6, 092	760 575 390 5, 895 148	992 1, 539 832 3, 799 150	48 644 566 6,550 130	715 1,008 845 4,900 130	180 160 167 150	220 210 220 250 250	225 184 200 171 300	300 235 145 160 210	200 170 150 146 350
Ohio Indiana Illinois Michigan Iowa	171 0 0 85 0	618 82 450 448 2	3,238 105 770 1,500 100	335 26 76 358 30	1,584 650 1,100 1,440 200	300 340 350 350 330	330 330 270 310 330	215 258 317 230 347	365 352 371 290 341	176 178 175 150 172
Missouri Nebraska Kansas Kentucky Tennessee	0 0 0 110 823	$egin{array}{c} 1,263 & 0 \\ 214 & 460 \\ 1,285 & \end{array}$	1,427 5 187 988 1,500	0 0 24 80 320	2,300 81 630 1,218 2,002	330 330 350 275 170	200 310 260 240 180	254 403 400 225 180	320 300 230	110 150 170 140 108
Alabama	2, 440 2, 333 167	1,083 776 382 4,621 2,924	974 412 269 800 180	1, 230 322 264 2, 200 360	810 375 180 1,920 2,070	110 150 175 190	170 150 190 180 140	175 175 275 310 250	165 150 250 165 150	120 200 167 220 115
Arkansas	217 959 34 1,050	3,340 722 204 140 884	117 670 6 48 471	435 810 8 54 763	2,040 1,160 98 128 885	190 200 235 150	160 250 200 180 160	235 250 250 350 250	160 175 325 300 171	100 100 200 190 50
Nevada Idaho Washington Oregon California	51 575 93 11, 920	293 1, 545 504 17, 200	6 42 155 100 15, 200	150 772 105 12, 910	6 244 1,125 300 17,500	190 160 200 140	270 180 170 140 150	300 290 280 330 190	250 175 182 250 100	75 155 106 125 108
United States	33, 091	53, 178	45, 620	32, 602	56,705					

¹ Preliminary estimate.

PEACHES-Continued.

Table 269.—Peaches: Total production in the United States, 1899 to 1922.

State.	1899 1	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909 1	1910
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
37 371-	bushs.	bushs	bushs.	búshs	bushs.	bushs.	bushs.	bushs, 920	bushs.	bushs.	bushs.	bushs.
New York	621	1,500	850 1,200	550 1,300	670 350	700	1,650	1,000	450	1,470	1,736 441	1,762 810
New Jersey Pennsylvania		1,400	1,700	1,350	900	700	1,500	1,000	600	1,500	1,021	1,533
Maryland		1,900	1,300	1,140	600	950	600	850	250	750	325	1,080
Virginia	357	1,900	1,350	850	800	850	950	800	300	900	243	1,075
West Virginia	18	700	800	250	180	700	330	500	150	650	329	598
North Carolina	374	1,550	1,150	1,050	1,100	1,350	1,200	1,100	550	1,400	1,311	1,955
South Carolina	129	800	650	600	750	700	650	700	170	1,100	643	1,204
Georgia	260	5,000	3,340	3,370	2,100	5,000	3,025	3,720	1,125	5,020	2,555	5,395
Ohio	241 69	1,900	3,800 1,600	1,100	1,050	1,900 630	2,000	1,100 820	680 450	2,050 1,190	1,036	1,239 703
Indiana Illinois		1,600	2, 100	300	450	700	750	2,150	770	1,750	1,223	140
Michigan	340	2,200	2,250	2.200	1,500	1,000	2,450	1,400	700	1,800	1,687	1,215
Missouri	61	2,250	2,700	1,200	850	2.500	650	4,000	500	2,200	1,485	1,440
Kentucky	35	2,100	2,500	500	650	1,700	1,570	1,700	550	1,670	1,623	770
Tennessee	78	1,900	1,800	1,100	900	1,450	670	2,400	450	1,700	1,579	1,440
Alabama	185	2,300	1,850	1,850	1,250	2,600	870	2,100	650	2,150	1,417	1,980
Mississippi Texas Arkansas	252 1,400	2,300 2,900	1,700	1,650 2,200	1,150	2,100 1,850	900 2,600	1,500	1,700	1,650 2,300	1, 157 730	1,340
Arkansas	334	1,600	1,550	2 200	500	2,500	2,200	2,300	2,400	2,700	1,902	3,400 2,000
California	8,563	6,750	6,836	8,930	8,150	6,425	7, 135	6,810	6,900	9, 146	9, 267	9,765
All other	1,267	4,088	3,859	3,961	2,950	4,090	2,931	5,334	2, 182	4,250	2,550	7,327
United States.	15,433	49,438	46, 445	37,831	28, 850	41,070	36, 634	44, 101	22, 527	48, 146	35,470	48, 171
01-1-	1	1	1	ī	T	1	1	1	1	1	1	-
State.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
State.												
State.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	1,000 bushs.	1,000 bushs.	1,000 bushs.	1,000 bushs.	1,000 bushs.	1,000 bushs	1,000 bushs.	1,000 bushs.	1,000 bushs.	1,000 bushs.	1,000 bushs.	1,000 bushs.
New York	1,000 bushs. 1,536	1,000	1,000	1,000 bushs. 530 1,140	1,000	1,000	1,000	1,000	1,000 bushs. 1,262	1,000	1,000 bushs. 1,700	1,000 bushs. 3,400 2,000
New York New Jersey Pennsylvania	1,000 bushs. 1,536 440 1,096	1,000 bushs. 1,400 638 660	1,000 bushs. 1,742 483 922	1,000 bushs. 530 1,140 1,541	1,000 bushs. 2,106 1,275 2,044	1,000 bushs 1,238 689 1,069	1,000 bushs. 4,823 990 1,848	1,000 bushs. 700 832 720	1,000 bushs. 1,262 1,653 1,100	1,000 bushs. 2,600 2,134 2,000	1,000 bushs.	1,000 bushs. 3,400 2,000 1,560
New York New Jersey Pennsylvania Maryland	1,000 bushs. 1,536 440 1,096 492	1,000 bushs. 1,400 638 660 672	1,000 bushs. 1,742 483 922 480	1,000 bushs. 530 1,140 1,541 1,032	1,000 bushs. 2,106 1,275 2,044 1,248	1,000 bushs 1,238 689 1,069 600	1,000 bushs. 4,823 990 1,848 1,038	1,000 bushs. 700 832 720 235	1,000 bushs. 1,262 1,653 1,100 564	1,090 bushs. 2,600 2,134 2,000 692	1,000 bushs. 1,700 347 350 59	1,000 bushs. 3,400 2,000 1,560 495
New York New Jersey Pennsylvania Maryland	1,000 bushs. 1,536 440 1,096 492	1,000 bushs. 1,400 638 660 672 1,058	1,000 bushs. 1,742 483 922 480 312	1,000 bushs. 530 1,140 1,541 1,032 911	1,000 bushs. 2,106 1,275 2,044 1,248 1,358	1,000 bushs 1,238 689 1,069 600 660	1,000 bushs. 4,823 990 1,848 1,038 928	1,000 bushs. 700 832 720 235 510	1,000 bushs. 1,262 1,653 1,100 564 682	1,090 bushs. 2,600 2,134 2,000 692 1,092	1,000 bushs. 1,700 347 350 59 52	1,000 bushs. 3,400 2,000 1,560 495 764
New York New Jersey Pennsylvania Maryland Virgina West Virgina	1,000 bushs. 1,536 440 1,096 492 318 230	1,000 bushs. 1,400 638 660 672 1,058 788	1,000 bushs. 1,742 483 922 480 312 132	1,000 bushs. 530 1,140 1,541 1,032 911 886	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164	1,000 bushs 1,238 689 1,069 600 660 520	1,000 bushs. 4,823 990 1,848 1,038 928 900	1,000 bushs. 700 832 720 235 510 680	1,000 bushs. 1,262 1,653 1,100 564 682 760	1,000 bushs. 2,600 2,134 2,000 692 1,092 992	1,000 bushs. 1,700 347 350 59 52 48	1,000 bushs. 3,400 2,000 1,560 495 764 715
New York	1,000 bushs. 1,536 440 1,096 492 318 230 437	1,000 bushs. 1,400 638 660 672 1,058 788 2,093	1,000 bushs. 1,742 483 922 480 312 132 598	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955	1,000 bushs 1,238 689 1,069 600 660 520 897	1,000 bushs. 4,823 990 1,848 1,038 928 900 1,978	1,000 bushs. 700 832 720 235 510 680 1,150	1,000 bushs. 1,262 1,653 1,100 564 682 760 575	1,000 bushs. 2,600 2,134 2,000 692 1,092 992 1,539	1,000 bushs. 1,700 347 350 59 52 48 644	1,000 bushs. 3,400 2,000 1,560 495 764 715 1,008
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145	1,000 bushs. 1,400 638 660 672 1,058 788 2,093 1,020 6,175	1,000 bushs. 1,742 483 922 480 312 132 598 405	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864	1,000 bushs 1,238 689 1,069 600 660 520 897 545	1,000 bushs. 4,823 990 1,848 1,038 928 900 1,978 1,030	1,000 bushs. 700 832 720 235 510 680 1,150 998	1,000 bushs. 1,262 1,653 1,100 564 682 760 575 390	1,090 bushs. 2,600 2,134 2,000 692 1,092 992 1,539 832	1,000 bushs. 1,700 347 350 59 52 48 644 566	1,000 bushs. 3,400 2,000 1,560 495 764 715 1,008 845 4,900
New York. New Jersey. Pennsylvania Maryland Virginia. West Virginia. North Carolina. South Carolina. Georgia	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,735	1,000 bushs. 1,400 638 660 672 1,058 788 2,093 1,020 6,175 1,055	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 5,785 1,653	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 2,448	1,000 bushs 1,238 689 1,069 600 660 520 897 545 3,510 1,350	1,000 bushs. 4,823 990 1,848 1,038 928 900 1,978	1,000 bushs. 700 832 720 235 510 680 1,150	1,000 bushs. 1,262 1,653 1,100 564 682 760 575	1,000 bushs. 2,600 2,134 2,000 692 1,092 992 1,539	1,000 bushs. 1,700 347 350 59 52 48 644	1,000 bushs. 3,400 2,000 1,560 495 764 715 1,008 845 4,900
New York. New Jersey. Pennsylvania Maryland Virginia. West Virginia. North Carolina. South Carolina. Georgia	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,735	1,000 bushs. 1,400 638 660 672 1,058 788 2,093 1,020 6,175 1,055	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,931 1,276	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 5,785 1,653 1,128	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 2,418 648	1,000 bushs 1,238 689 1,069 600 660 520 897 3,510 1,350 888	1,000 bushs. 4,823 990 1,848 1,038 928 900 1,978 1,030 3,668 341 518	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092	1,000 bushs. 1,262 1,653 1,100 564 682 760 575 390 5,895 618 82	1,090 bushs. 2,600 2,134 2,000 692 1,092 992 1,539 832 3,799 3,238 405	1,000 bushs. 1,700 347 350 59 52 48 644 566 6,550 335 26	1,000 busks. 3,400 2,000 1,560 495 764 715 1,008 845 4,900 1,584
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina Georgia Ohio Indiana Illinois	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,735 1,147	1,000 bushs. 1,400 638 660 672 1,058 2,093 1,020 6,175 1,055 1,85	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950 931 1,276 1,998	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 5,785 1,653 1,128 1,755	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 2,448 648 874	1,000 bushs 1,238 689 1,069 600 660 520 897 545 3,510 1,350 888 780	1,000 bushs. 4,823 990 1,848 1,038 928 900 1,978 1,030 3,668 341 518 461	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174	1,000 bushs. 1,262 1,653 1,100 564 682 760 575 390 5,895 618 82 450	1,000 bushs, 2,600 2,134 2,000 692 1,092 1,539 832 3,799 3,238 405,770	1,000 bushs. 1,700 347 350 59 52 48 644 566 6,550 335 26 76	1,000 bushs. 3,400 2,000 1,560 495 764 715 1,008 845 4,900 1,584 650
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina Georgia Ohio Indiana Illinois Michigan	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,735 1,147 2,810 2,228	1,000 bushs. 1,400 638 660 672 1,058 788 2,093 1,020 6,175 1,055 185 82	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950 931 1,276 1,998	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,163 1,165 1,653 1,128 1,755	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 2,418 648 874 2,360	1,000 bushs 1,238 689 1,069 600 520 897 545 3,510 1,350 888 780 2,010	1,000 bushs. 4,823 990 1,848 1,038 928 900 1,978 1,030 3,668 341 518 461 744	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174	1,000 bushs. 1,262 1,653 1,100 564 682 760 575 390 5,895 618 82 450	1,000 bushs. 2,600 2,134 2,600 1,002 1,539 832 3,799 3,238 405 7,500	1,000 bushs. 1,700 347 350 59 52 48 644 566 6,550 335 26	1,000 bushs. 3,400 1,560 495 764 7,008 845 4,900 1,584 650 1,100 1,440
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina Georgia Ohio Indiana Illinois Michigan	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,735 1,147 2,810 2,228	1,000 bushs. 1,400 638 660 672 1,058 788 2,093 1,020 6,175 1,055 185 82 700 900 1,210	1,000 bushs. 1,742 483 922 480 312 598 4,950 1,950 1,276 1,998 1,539 4,320	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,165 1,653 1,128 1,755 1,217	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 648 874 2,360 3,300	1,000 bushs 1,238 689 1,069 600 660 520 897 545 3,510 1,350 888 780 2,010	1,000 bushs. 4,823 990 1,848 1,038 902 1,978 1,030 3,668 341 518 461 744 728	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174	1,000 bushs. 1,262 1,653 1,100 564 682 760 575 390 5,805 618 82 436 448 1,263	1,000 bushs. 2,600 2,134 2,000 692 1,002 1,539 832 3,799 3,238 405 770 1,500 1,427	1,000 bushs. 1,700 347 350 59 52 48 644 6,550 335 26 76 358	1,000 bushs. 3,400 2,000 1,560 495 764 715 1,008 845 4,900 1,584 650 1,100 1,400 2,300
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina Georgia Ohio Indiana Illinois Michigan Missouri Kentucky Tennessee	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,735 1,147 2,810 2,228	1,000 bushs. 1,400 638 660 672 1,058 788 2,093 1,020 6,175 1,055 185 82 700 900 1,210	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950 931 1,276 1,998	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 1,653 1,128 1,755 1,217 3,7% 1,287 1,287 2,247 2,247	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 2,448 648 874 2,360 3,300 1,320	1,000 bushs 1,238 689 1,069 600 520 897 545 3,510 1,350 888 780 2,010	1,000 bushs. 4,823 990 1,848 1,038 900 1,978 1,030 3,668 341 518 461 744 728 1,100 595	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174	1,000 bushs. 1,262 1,653 1,100 564 682 760 575 390 5,895 618 82 450 448 1,263	1,090 bushs. 2,600 2,134 2,000 692 1,092 992 1,539 832 3,799 3,238 405 770 1,500 1,427 988	1,000 bushs. 1,700 347 350 59 52 48 644 566 6,550 335 26 76	1,000 bushs. 3,400 2,000 1,560 495 764 1,008 845 4,900 1,100 1,440 2,300 1,218
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina Georgia Ohio Indiana Illinois Michigan Missouri Kentucky Tennessee	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,735 1,147 2,810 2,228 2,200 2,700 770 380 840	1,000 bushs. 1,400 638 660 672 1,058 2,993 1,020 6,175 1,055 185 82 700 900 1,210 2,820 2,760	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950 931 1,276 1,998 1,539 4,320 1,430 1,140	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 5,785 1,653 1,128 1,755 1,217 3,780 1,980 2,640 2,310	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,1955 864 5,330 2,418 874 2,360 3,300 1,320 2,460	1,000 bushs 1,238 689 1,069 600 660 520 897 545 3,510 1,350 888 780 2,010 1,050 880 900 1,110	1,000 bushs. 4,823 990 1,848 1,038 900 1,978 1,030 3,668 341 518 461 744 728 1,100 595	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174	1,000 bushs. 1,262 1,653 1,100 564 682 760 5,755 390 5,895 618 82 450 448 1,263 460 1,263 1,083	1,000 bushs. 2,600 2,134 2,000 692 1,002 1,539 832 3,799 3,238 405 770 1,500 1,427	1,000 bushs. 1,700 347 359 52 48 644 566 6,550 335 26 76 358	1,000 bushs. 3,400 2,000 1,560 495 764 715 1,008 650 1,100 1,100 2,300 1,218 2,002 810
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina Georgia Ohio Indiana Illinois Missiouri Kentucky Tennessee Alabama Mississippi	1,000 bushs. 1,536 402 318 230 437 649 2,145 1,735 1,147 2,310 2,228 2,700 380 840	1,000 bushs. 1,400 638 660 672 1,058 2,093 1,020 6,175 1,055 185 2,700 900 1,210 2,820 2,760	1,000 bushs. 1,742 480 312 598 495 1,950 981 1,276 1,998 1,539 4,320 1,430 1,140 1,140	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,165 5,785 1,653 1,128 1,217 3,780 2,640 2,310 1,440	1,000 bushs. 2,106 1,275 2,044 1,348 1,164 1,955 864 5,330 2,448 648 874 2,360 3,300 1,460 2,460 2,460	1,000 bushs 1,238 689 1,060 600 600 520 897 53,510 1,350 888 780 2,010 1,050 880 900 1,110	1,000 bushs. 4,823 990 1,848 1,038 928 900 1,978 1,030 3,668 341 518 461 744 728 1,100 595 1,281	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174 85	1,000 bushs. 1,262 1,653 1,100 564 682 760 575 390 5,895 618 82 450 448 1,263 460 1,285 1,083 776	1,000 bushs. 2,600 2,134 2,000 692 1,092 1,539 3,799 3,238 405 770 1,500 1,427 988 1,500 974 412	1,000 bushs. 1,700 347 350 59 52 48 644 566 6,550 335 26 76 358	1,000 busks. 3,400 2,000 1,560 764 715 1,008 845 4,900 1,584 1,100 1,218 2,300 1,218 2,002 810 375
New York. New Jersey. Pennsylvania. Maryland. Virginia. West Virginia. North Carolina. South Carolina. Georgia. Ohio. Indiana. Illinois. Michigan. Missouri. Kentucky. Tennessee. Alabama. Mississippi. Texas.	1,000 bushs. 1,536 402 318 230 437 649 2,145 1,735 1,147 2,310 2,228 2,700 380 840	1,000 bushs. 1,400 660 672 1,058 788 2,093 1,020 6,175 1,055 82 700 900 1,210 2,820 2,760 1,904 4,140	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950 1,950 1,276 1,998 1,539 1,539 1,430 1,140 1,140 1,140 1,120 2,107	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 5,785 1,653 1,128 1,755 1,453 1,780 2,310 2,310 1,496	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 2,418 874 2,360 1,320 2,640 1,540 4,081	1,000 bushs 1,238 689 1,069 600 520 897 545 3,350 1,350 888 780 2,010 1,050 880 900 01,110 400 2,860	1,000 bitshs. 4,823 990 1,848 1,038 928 900 1,978 1,030 3,668 341 744 728 1,100 595 1,281	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174 85 110 83 2,440	1,000 bushs. 1,262 1,653 1,100 564 682 760 5,755 390 5,895 618 82 450 448 1,263 449 1,285 1,083 7,083 4,682 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084	1,000 bushs. 2,600 2,134 2,000 692 1,002 992 1,539 832 3,799 3,238 405 770 1,427 988 1,500 974 412 800	1,000 bushs. 1,700 347 350 59 52 48 644 566 6,550 335 76 358 80 320 1,230 1,230 2,202	1,000 bushs. 3,400 2,000 1,560 495 764 7155 1,008 845 650 1,100 1,440 2,300 1,218 2,002 810 375 1,920
New York. New Jersey. Pennsylvania. Maryland. Virginia. West Virginia. North Carolina. South Carolina. Georgia. Ohio. Indiana. Illinois. Michigan. Missouri. Kentucky. Tennessee. Alabama. Mississippi. Texas.	1,000 bushs. 1,546 1,096 492 318 230 437 649 2,145 1,735 1,747 2,810 2,228 2,700 380 480 1,204 2,346	1,000 bushs, 1,400 638 660 672 1,058 2,093 1,020 6,175 1,055 185 82 700 900 0,2,820 2,760 1,210 2,820 2,760 1,800 4,140	1,000 bushs. 1,742 483 9922 489 312 132 598 405 1,950 931 1,276 1,998 1,539 4,320 1,140 1,140 1,140 1,020 2,107 3,120	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,863 1,653 1,128 1,755 1,217 3,740 2,640 2,310 1,440 1,198	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 5,330 2,418 648 874 2,360 3,360 1,320 2,460 2,460 1,540 4,081	1,000 bushs 1,238 600 660 660 520 897 3,510 1,350 888 888 780 2,010 1,050 890 910 1,050 400 2,860	1,000 bushs. 4,823 990 1,848 1,038 902 1,978 1,038 903 1,978 1,038 461 744 728 1,100 595 1,281	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174 85 110 85 2,440 2,333 2,440	1,000 bushs. 1,262 1,653 1,653 1,100 564 682 760 575 390 5,895 618 82 450 448 1,263 490 1,283 1,083 776 4,621	1,000 bushs. 2,600 2,134 2,000 692 1,002 1,002 1,539 832 3,799 3,238 405 770 1,500 1,427 998 1,500 974 412 800	1,000 bushs. 1,700 347 350 59 52 2,48 644 566 6,550 335 26 676 358 80 3,22 1,230 1,230 435	1,000 bushs. 3,400 2,000 1,560 495 764 715 1,008 845 4,900 1,584 650 1,100 1,218 2,300 1,218 2,300 375 1,920 2,040
New York New Jersey Pennsylvania Maryland Virginia West Virginia North Carolina South Carolina Georgia Ohio Indiana Illinois Missourt Kentucky Tennessee Alabama Mississippi	1,000 bushs. 1,536 402 318 230 437 649 2,145 1,735 1,147 2,310 2,228 2,700 380 840	1,000 bushs. 1,400 660 672 1,058 788 2,093 1,020 6,175 1,055 82 700 900 1,210 2,820 2,760 1,904 4,140	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950 1,950 1,276 1,998 1,539 1,539 1,430 1,140 1,140 1,140 1,120 2,107	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 5,785 1,653 1,128 1,755 1,283 1,780 2,310 2,310 1,496	1,000 bushs. 2,106 1,275 2,044 1,248 1,358 1,164 1,955 864 5,330 2,418 874 2,360 1,320 2,640 1,540 4,081	1,000 bushs 1,238 689 1,069 600 520 897 545 3,350 1,350 888 780 2,010 1,050 880 900 01,110 400 2,860	1,000 bitshs. 4,823 990 1,848 1,038 928 900 1,978 1,030 3,668 341 744 728 1,100 595 1,281	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174 85 110 83 2,440	1,000 bushs. 1,262 1,653 1,100 564 682 760 5,755 390 5,895 618 82 450 448 1,263 449 1,285 1,083 7,083 4,682 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084 4,084	1,000 bushs. 2,600 2,134 2,000 692 1,002 992 1,539 832 3,799 3,238 405 770 1,427 988 1,500 974 412 800	1,000 bushs. 1,700 347 350 59 52 48 644 566 6,550 335 76 358 80 320 1,230 1,230 2,202	1,000 bushs. 3,400 2,000 1,560 495 764 7155 1,008 845 650 1,100 1,440 2,300 1,218 2,002 810 375 1,920
New York. New Jersey. Pennsylvanna Maryland Virginna West Virginna. North Carolina. South Carolina. Georgina Ohio Indiana Illinois. Missiour. Kentucky. Tennessee Alabama. Mississippi Texas. Arkansas. Arkansas. California	1,000 bushs. 1,536 440 1,096 492 318 230 437 649 2,145 1,775 1,147 2,228 2,700 360 840 1,204 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 2,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,346 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,466 3,4	1,000 bushs. 1,400 638 660 672 1,058 788 2,093 1,020 6,175 1,055 82 700 900 1,210 2,820 2,760 1,300 4,140 4,524 9,308	1,000 bushs. 1,742 483 922 480 312 132 598 405 1,950 931 1,276 1,983 4,320 1,430 1,140 1,140 1,120 2,107 3,125	1,000 bushs. 530 1,140 1,541 1,032 911 886 1,863 1,166 5,785 1,653 1,128 1,724 1,247 3,780 2,640 2,310 1,196 3,180 3,190 1,196	1,000 busks. 2,106 1,275 2,044 1,286 1,358 1,164 1,955 864 5,330 2,418 648 874 2,360 3,300 1,320 2,640 4,081 5,940 9,768	1,000 bushs 1,238 689 1,069 600 520 897 545 3,510 1,350 2,010 1,050 880 2,010 1,105 880 900 1,110 400 2,860 753	1,000 bushs. 4,823 990 1,848 1,038 992 900 1,978 1,030 3,684 341 744 728 1,100 595 1,281	1,000 bushs. 700 832 720 235 510 680 1,150 998 6,092 174 85 110 833 2,440 2,333 2,337 11,920	1,000 bushs. 1,263 1,663 1,663 1,100 564 682 760 575 390 5,815 615 82 450 448 1,263 4,621 1,285 1,083 776 4,621 3,340	1,000 busks, 2,000 2,134 2,000 1,092 992 1,539 832 3,798 405 770 1,500 1,427 988 1,500 974 412 800 117 15,200 2,699	1,000 busks. 1,700 347 350 59 52 48 644 566 6,550 335 26 76 353 320 1,230 322 2,200 435	1,000 bushs. 3,400 2,000 1,560 495 764,715 1,008 4,900 1,584 4,900 1,100 1,218 2,002 810 375 1,920 2,400 17,504

¹ Census figures.

Table 270.—Peaches: Total production (bushels) in the United States, 1899-1922.

Year.	Production.	Year.	Production.	Year.	Production.
1899 ¹	49,438,000 46,445,000 37,831,000 28,850,000 41,070,000 36,634,000	1907 1908 1909 1 1910 1911 1911 1912 1913 1914	48,146,000 35,470,000 48,171,000 34,880,000 52,343,000	1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922.	37,505,000 48,765,000 33,094,000 53,178,000 45,620,000 32,602,000

PEACHES-Continued.

Table 271.—Peaches: Forecasts of production, monthly, with preliminary and final estimates.

Year.	June.	July.	August.	September production estimate.	Final estimate.
1915	1,000	1,000	1,000	1,000	1,000
	bushels.	bushels.	bushels	bushels	bushels
	56,587	57,786	59,101	64,997	64,097
	42,062	42,123	40,320	36,939	37,505
	45,446	43,522	42,691	42,606	48,765
	52,860	40,251	40,921	39,149	33,094
	50,348	50,001	49,793	51,327	53,178
	45,067	45,218	45,521	44,523	45,620
	30,982	30,758	31,279	33,195	32,602
	53,629	54,302	55,976	56,125	1 56,705

¹ Preliminary estimate.

Table 272.—Peaches. Farm price, cents per bushel, on 15th of each month, 1911-1922.

Date.	1911	1912	1913	1914	1915	1916	1917	19 18	1919	1920	1921	1922
June 15	151.0 138 0 129.0	112 1 108 3	130. 5 126. 2 136. 3 145. 0	120.4	99. 5 85. 4 81. 1 85. 2	119.6 109.1 114 9 118.3 112.1	170.3 141.8 143.3 143.8 160.6	134. 0 169. 4 178. 9 185. 3 193. 2	191. 1 201 6 199 6 205 7 211 7	236. 8 226. 9 235. 0 219. 8 244. 2	189.3 205.3 216.3 227.5 244.3	172.0 161.4 143.7 143.5 150.4

Table 273.—Peaches: Monthly average jobbing prices per 6-basket carrier and bushel at 10 markets, 1921 and 1922.

		6-basket	carriers.				Bus	hels.		
Market and year.	May.2	June.	July.	Aug.	May.2	June.	July.	Aug.	Sept.	Oct.3
New York:										
1921 1922	\$3.72	\$3.34 3.05	\$3.04 2.57	\$5.00 2.16			\$2.62 2.29	\$1.90	\$1.78	\$1.43
Chicago:	401.12							*	*	
1921 1922	3.50	$2.47 \\ 2.72$	2, 95 2, 65	4. 23		\$2.74 2.76	3. 20 2. 51	1.91	1.70	1.38
Philadelphia:		0.70	0.00	4.00			0.07			
1921 1922	2.81	2.73 2.65	2.86 2.44	4.28 2.14			2.07	1.88	1.60	1.67
Pittsburgh:		0 50	0.05	4.00		ļ	3.38			
1921 1922	3.50	2.59 2.78	2.87 2.58	4. 29 2. 20			2.89	2.47	1.62	1.84
St. Louis		0.04	0.10	4.74	1	1	3. 27			
1921		2.84 2.74	3. 12 2. 48	4.74		2.50	2, 59	1.89	1.95	1.54
Cincinnati:										
1921 1922		2, 27 2, 21	2.78 2.13		\$2.50	2.42 2.05	3.02 2.59	2.17	1.69	1.90
St. Paul:					1					
1921								2.17	2.03	1.70
Minneapolis:										
1921								2.21	1.99	1.56
1922 Kansas City:			2.49					2.21	1.99	1.00
1921		2, 59				4.04	3.29			
1922		2.60	2.58				2.48	2.15	1.99	1.0
Washington:4 1921		3.04	3.29	4.75						
1922		3.07	2. 43	2. 27				2.55	2.30	2.0

A verage prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices.
 Quotations began May 25, 1922.
 Last quotation Oct 11 1999

PEACHES-Continued.

Table 274.—Peaches: Carlot shipments by States of origin, 1917 to 1933.

State.	1917	1918	1919	1920	1921	1922
New York New Jersey Pennsylvania Virginia West Virginia North Carolina Georgia Michigan Tennessee Texas Oklahoma Arkansas Colorado Utah Washington	7, 308 1, 218 879 125 990 65 4, 098 4, 098 278 1, 597 1, 347 1, 116 1, 920 2, 858	1,057 718 257 63 322 56 7,995 76 152 1,579 244 190 1,111 577 647 4,518	1, 434 1, 148 366 187 425 66 7, 236 270 116 1, 940 866 2, 335 1, 534 1, 102 2, 219 7, 846	1, 066 1, 307 316 370 458 313 5, 663 2, 275 149 62 20 773 402 201 7, 354	2,810 5 45 10,636 198 218 964 12 596 1,219 839 1,947 7,606	6, 802 1, 595 268 262 19 1, 452 7, 311 1, 657 247 247 245 1, 539 1, 428 1, 246 992 9, 125
All other	2, 128	817	2,083	2,605	406	4, 124
Total	27, 237	20, 409	30, 923	26, 967	27, 300	38, 247

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.

Table 275.—Peaches: Monthly and yearly carlot shipments by States, 1917 to 1922.1

State and year.	May.	June	July.	Aug.	Sept.	Oct.	Total.
New York:							
1917					4, 292	2 3, 016	7,308
1918				18	999	40	1, 057
1919			5	97	1, 289	43	1, 434
1920				22	3, 442	1,202	4,666
1921				1,663	1, 173	4	2,840
1922				102	5, 897	803	6, 802
leorgia:				102	.,,	000	0,002
1917	37	1,076	2,983	2			4,098
1918	1,036	3, 511	3, 438	10			7, 995
1919	295	3, 073	3, 863	5			7, 236
1920		3,013	4, 157				7,200
	41	1,315		150	· · · · · · · · · · · · ·		5,663
1921	1,402	3,659	5,564	11			10, 636
1922	673	2,959	3,676	3			7,311
rkansas:			· ·	1			
1917		10	1,099	485	3		1,597
1918			179	11			190
1919	2		1,375	956	2		2, 335
1920			-,-,-	20			20
1921	2	3	591				596
1922	-	5	1, 282	252			1, 539
olorado:		,	1,202	202			1,000
1917	l				922	371	1 047
				51			1, 347
1918			5	670	434	2	1, 111
				860	470	4	1, 334 773
1920				62	708	3	773
1921				554	659	6	1, 219
1922				455	965	8	1,428
alifornia:							,
1917	1	154	173	2, 136	361	33	2,858
1918	ī	201	762	2 306	1, 122	36	4, 518
1919		205	1,520	2,396 4,363	1,753	ĩ	7, 846
1920	4 2	222	2,314	3, 186	1,624	6	7, 354
1921		43	1,672	4 091	1,652	8	7, 606
1922		63		4, 231 5, 294	3, 354	284	
II other:		03	130	0,204	0, 3,)4	201	9, 125
1917			004	0.000			10.000
	3	54	894	3,069	5, 453	8 556	10,029
1918	82	309	1,952	2,080	1,070	45	5, 538
1919	27	235	2, 453	4,996	2,971	56	10, 738
1920	2	51	410	2,844	4,754	8 430	8, 491
1921	25	307	1,560	865	1,632	14	4, 403
1922	13	113	2, 459	5,851	3,465	141	12, 042
otals:			-, -00	3,	•,		,
1917	41	1,294	5, 149	5,743	11,031	43,979	27, 237
1918	1, 119	4,021	6, 336	5, 185	3,625	123	20, 409
1919	328	3, 513	0,000	11 077	0,020		
1920		0,010	9, 216	11,277	6,485	104	30, 923
1001	45	1,588	6, 881	6, 284	10, 528	8 1, 641	26, 967
1921	1,429	4, 012 3, 140	9,387	7, 324	5, 116	32	27, 300
1922	686		7, 547	11,957	13,681	1,236	38, 247

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.
2 Includes 8 cars in November.
3 Includes 3 cars in November.

PEARS.

Table 276.—Pears: Production and farm prices, by States, 1918–1922.

State.	T	otal crop (thousands	of bushels).	Farn	n price (per bu	shel N	ov. 1
State.	1918	1919	1920	1921	1922 1	1918	1919	1920	1921	19221
Maine New Hampshire Vermont Massachusetts Rhode Island	20 15 13 77 10	14 17 10 84 11	10 18 10 83 11	15 17 6 45 6	14 24 10 84 12	175		225 225 280 250 250	200 250 330 300 150	200 200 220 147 100
Connecticut New York New Jersey Pennsylvania Delaware	34 1,352 650 518 238	57 1, 830 402 421 98	2,700 690 845 140	50 1,650 185 220 9	60 3, 200 405 576 158	175 150 110 135 80	240 140 230 150	250 105 110 130 25	200 170 150 245 200	100 65 80 100 25
Mai yland	455 119 33 108 98	287 288 40 120 99	421 438 66 208 120	35 30 2 100 115	256 270 38 110 104	100 120 200 150 140	130 160 230 210 220	60 95 175 161 150	200 200 300 182 150	50 100 160 130 120
Georgia Florida Ohio Indiana Illinois	188 132 304 260 302	178 43 157 107 375	173 24 478 375 603	171 40 126 70 100	202 50 450 300 510	150 170 175 160	180 180 260 180 170	145 150 120 99 125	165 123 275 196 270	105 100 80 75 100
Michigan	704 32 112 6	405 20 30 431 120	$\begin{array}{c} 1,044 \\ 24 \\ 90 \\ 418 \\ 22 \end{array}$	532 16 5 4 2	672 19 75 450 27	125	180 190 190 140 250	90 175 145 150 • 275	175 320 600 250 300	80 80 124 105 140
Kansas	38 140 112 152 136	221 55 115 163 125	41 132 200 158 167	7 4 65 180 167	243 150 180 176 190	200 175 150 130 105	170 180 200 160 160	215 195 165 164 200	275 233 205 137 132	140 155 120 133 125
Louisiana Texas Oklahoma Arkansas Montana	52 246 38 64 6	59 637 250 123 6	47 338 42 42 6	38 406 36 39 7	48 390 197 100 9	120 150 240 180	125 140 190 170 300	175 231 200 190 200	229 190 200 160 300	171 117 150 160 100
Colorado Now Mexico Arizona Utah Nevada	194 56 19 51 6	345 67 20 76 4	386 32 12 87 5	502 24 16 81 3	519 18 18 98 4	384 160	220 230 380 250 250	190 250 250 250 250 300	220 250 300 250 250	75 150 125 106 150
Idaho Washington Oregon California	60 1,300 672 4,240	49 1, 781 761 4, 600	1, 140 760 4, 080	1, 710 836 3, 570	72 1, 708 1, 260 5, 205	150 115 125 140	175 170 150 180	276 130 175 275	200 170 150 150	175 134 140 120
Umted States.	13, 362	15, 101	16, 805	11, 297	18, 661					

¹ Preliminary estimate.

PEARS--Continued.

Table 277.—Pears: Total production in the United States, 1909-1922.

State.	1909 1	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
N. Y	bush. 1,343	bush. 1,530	bush. 1,886	bush. 1,128	bush. 2,016	bush. 1,298	bush. 1,375	bush 1,675	bush. 1,705	bush. 1,352	bush 1,830	bush. 2,700	bush. 1,650	bush. 3, 200
Ñ. Ĵ	463	910	970	749	598	876	596	687	590	650	102	690	185	405
Pa	379	570	646	418	456	608	494	509	448	518		845	220	576
Del	105	301	262	315		210	228	164		238	98	140	9	158
Md	368	609	455				483				287	421	35	256
Va	74	221	122	282	68	234	261	122	194	119	288		30	270
N. C	84	164	52	207	58		150		150		120		100	110
S. C	66	108	52	117	42		91		100		99		115	
Ga	150		111	212			203	135	140		178		171	202
Ohio	375	360	736		400						157 107		126	450
IndIll	320	292 32	585 499		474 422	422 422	410 496		410 456	302	375	603	70 100	300
Mich	249 666		829						1,080		405		532	510 672
Kans	19	98	70	142	63	109	133	106	1,080	38	221	41	7002	243
Ку	252		160							140			4	150
Tenn	84	126	32	196			195		75	112	115		$6\hat{5}$	180
Colo	133	121	160		130				320	191	345		502	519
Wash	311	396	372	477	464				595	1,300	1,781		1,710	1,708
Oreg	375	540	441	554	559		525		600	672	761	760	836	1, 260
Calit	1,928	1,887	1,848	2,015	1,634	1,958	1,650	3, 124	3, 523	4,240	4,600	4,080	3,570	
All other	1,097	1,270			1,359	1,759		1,331	1,395	1,370			1,260	
*** 0	0.044											10.00		
U. S	8,841	10, 431	11,450	11,843	10, 108	12, 086	11,216	11,874	13,281	13, 362	15, 101	16,805	11,297	18,661
								1				1		

¹ Census figures.

Table 278.—Pears: Total production (bushels) in the United States, 1909-1922.

Year.	Production.	Year.	Production.	Year.	Production.
1909 ¹	8,841,000 10,431,000 11,450,000 11,843,000 10,108,000	1914 1915 1916 1917 1918	12,086,000 11,216,000 11,874,000 13,281,000 13,362,000	1919. 1920. 1921. 1922.	15, 101, 000 16, 805, 000 11, 297, 000 18, 661, 000

¹ Census figures.

Table 279.—Pears: Forecasts of production, monthly, with preliminary and final estimates.

Year.	June.	July.	August.	Septem- ber.	October.	November production estimate.	Final estimate.
1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922.	1,000 bushels. 11, 450 11, 041 12, 526 10, 345 12, 298 13, 568 8, 880 15, 021	1,000 bushels. 10, 902 10, 703 11, 368 10, 322 12, 068 13, 636 9, 016 15, 613	1,000 bushels. 11,068 10,570 10,847 10,239 12,260 14,526 9,310 16,452	1,000 bushels. 11, 196 10, 292 10, 841 10, 337 13, 680 14, 611 9, 475 16, 370	1,000 bushels. 11, 131 10, 193 10, 848 10, 189 13, 687 14, 873 9, 665 16, 718	1,000 bushels. 11, 216 10, 377 11, 419 10, 342 13, 628 15, 558 9, 780 17, 772	1,000 bushels. 11,216 11,874 13,281 13,362 15,101 16,805 11,297 1 18,661

¹ Preliminary estimate.

Table 280.—Pears: Farm price, cents per bushel on 15th of month, 1911-1922.

Date.	1911	1912	1943	1914	1915	1916	1917	1918	1919	1920	1921	1922
August September October November December		106.3 100.0 83.1 79.3 92.8	109.9 119.3 95.6 93.0 97.9	98. 8 92. 8 80. 4 77. 5 82. 5	80.8 83.8 82.7 89.8 89.7	109. 0 102. 7 96. 9 93. 3 105. 6	132, 2 125, 0 118, 2 116, 1	168. 4 157. 8 147. 5 140. 1 156. 6	188, 4 183, 0 181, 3 182, 0 219 5	195. 5 197. 9 184. 2 170. 0 164 5	165. 2 175. 1 186. 4 194. 9	147.1 116.2 119.8 118.7

PEARS-Continued.

Table 281.—Pears: Carlot shipments by States of origin, 1917-18 to 1921-22.1

State	1917-18	1918-19	1919-20	1920-21	1921–22
New York. New Jeisey. Delaware. Maryland. Ohio. Indiana Illinois. Michigan Texas. Colorado. Utah Washington Oregon. California All other.	699	1, 226 52 413 43 47 11 97 343 127 347 34 2, 421 799 4, 002 208	1,506 121 55 18 5 49 324 127 100 524 25 2,452 330 3,661 257	3,962 42 267 36 54 78 1,140 1,142 88 604 75 1,906 847 4,594	2, 855 21 17 610 96 733 31 2, 827 974 4, 433
Total	11,614	10,170	10, 154	15,037	12,739

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.

CITRUS FRUITS.

Table 282.—Oranges: Production and value, 1915-1922.

	Un	ited Sta	les.	Florida.			California.		
Year.	Produc- tion.	Average price per box Dec. 1.	Farm value Dec. 1.	Produc- tion.	Average price per box Dec. 1.	Farm value Dec. 1.	Produc- tion.	Average price per box Dec. 1.	Farm value Dec. 1.
1915 1916 1917 1918 1919 1920 1921 1921	1,000 boacs. 21,200 24,433 10,593 21,200 22,528 29,700 20,300 24,900	Dollars. 2 39 2. 52 2. 60 3. 49 2 67 2 19 2 42 2 47	1,000 dollars. 50,692 61,463 27,556 84,480 60,202 64,908 49,175 61,395	1,000 boxes. 6,150 6,933 3,500 5,700 7,000 8,100 7,300 8,400	Dollars 1 88 2.05 2 30 2 65 2.50 2.20 1.75 2.30	1,000 dollars. 11,562 14,213 8,050 15,105 17,500 17,820 12,775 19,320	1,000 boxes. 15,050 17,500 7,093 18,500 15,528 21,600 13,000 16,500	Dollars. 2 60 2 70 2 75 3 75 2 75 2 18 2 80 2 55	1,000 dollars. 39,130 47,250 19,506 69,375 42,702 47,088 36,400 42,075

¹ Preliminary estimate.

Table 283.—Citrus fruits: Carlot shipments by States of origin, 1918 to 1922.

								•			
State.		(lrapefrui	lt.		Lemons.					
	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922	
Florida	5, 289 9 352	6,328 17 279	11,498 54 477	11,795 54 426	13,544 63 491	6,913	8,823	9,371	11,887	9,879	
Total	5,650	6,624	12,029	12,275	14,098	6,913	8,823	9,373	11,887	9,880	
State.	Oranges.					Total: Citrus fruits (grapefruit, lemons, and oranges).					
	1918	1919	1920	1921	1922	1918	1919	1920	1921	1922	
Florida	12, 184 6 71 16, 183	13,264 5 98 35,957	19,273 71 49 30,906	18,914 145 73 46,759	16,971 401 75 28,694	17,473 6 80 23,448	19,592 5 115 45,059	30,773 71 103 40,754	30,709 145 127 59,072	30, 515 401 139 39, 064	
Total	28,444	49,324	50, 299	65,891	46,141	41,007	64,771	71,701	90,053	70, 119	

CITRUS FRUITS- Continued.

Table 284.—Oranges, California Navels: Monthly average wholesale prices at New York market, 1908 to 1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Dec.
1908 1909 1910 1911 1911	\$3, 22 3, 28 2, 88 3, 22	\$3, 25 3, 25 3, 19 3, 32 3, 72	\$2,97 3 03 3 12 4,12 5,30	\$3 02 3, 28 3, 18 3, 42 3, 44	\$3, 50 3, 00 3, 56 3, 75 3, 22		\$1.38 3.62 4.00	\$3.38 3.62 3.50
1913 1914 1915 1916 1917	3, 54 3 28 2, 73 3, 38 3, 25	3, 55 3, 09 2, 90 3, 38 3, 72	4, 16 3, 03 2, 79 3, 02 3, 98	4, 72 3, 12 2, 96 3, 66 4, 38	5, 15 3, 50 3, 19 3, 50 4, 38	2, 81 3, 44 4, 00 1, 38	4.38	3. 38 3. 19 3. 79 3. 06 4. 25
1918. 1919. 1920. 1921. 1922.	4. 25 4. 00 6. 31	5. 00 4. 91 4. 00 6. 00	5, 95 5, 69 4, 00 6, 00	6, 75 5, 75 4, 00 6, 00	6, 75 5, 62 4, 00 6, 00	4. (K)		

¹Compiled from New York Journal of Commerce.

Table 285.—Oranges, California Valencias: Monthly average wholesale prices at New York market, 1908 to 1922.

Year.	Jan.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908			\$5, 25 4, 88	\$5, 25 4, 94	\$5, 25 5, 44 6, 95	\$5, 50 5, 98 7, 50	\$7.00 6.50	\$6.50
1910. 1911 1912.	\$9.38	4.38 4.75	6, 22 4, 91 5, 16	6, 94 5, 66 5, 15	5, 72 5, 56	6.78 5.91	8. 41 7. 03 6. 62	9.50 9.25
1913 1914 1915 1916 1917		3, 58 5, 00	7.03 3.95 4.92 5.12	6, 60 4, 31 5, 41 5, 44 5, 75	6, 44 3, 94 6, 09 6, 48 5, 75	7. 80 4. 15 6. 88 7. 12 5. 47	8, 12 4, 97 7, 50 6, 94 6, 25	6. 56 8. 38 6. 75 4. 81
1918 1919 1920 1921 1922	11. (%) 7. 75	7, 91 5, 56 5, 25 10, 75	7, 75 5, 53 8, 50 5, 32 10, 75	7. 75 7. 35 7. 56 6. 25 10. 75	7, 75 7, 50 7, 25 6, 25 10, 75	9. 84 7. 55 7. 75 6. 25 11. 00	12.72 7.75 8.50 6.25 11,25	11, 00 7, 75 10, 50 6, 25 11, 25

¹ Compiled from New York Journal of Commerce.

Table 286.—Lemons, California: Monthly average wholesale prices at New York market, 1908 to 1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1908 1909 1910 1911 1912	3.70 4.62	\$3, 25 3, 88 3, 84 4, 22	\$3.06 3.20 3.44 3.88	\$2.91 3.42 3.78 3.94	\$3.02 3.62 4.00 4.75	\$3.25 3.12 5.88	\$5, 80				\$4.72 5.75 6.17 5.91 7.60	\$3. 19 5. 25 3. 88 4. 40 6. 22
1913 1914 1915 1916 1917	2.52	i i	2. 75 2. 90 3. 72	2, 84 3, 19 4, 62	1	3. 28 4. 15 5, 25	2, 08 5, 69 6, 75	\$2,69 8,12 8,85	4. 75 3. 03 7. 62 10. 25	4, 56 3, 90 7, 38 7, 34	4. 25 4. 31 6. 56	3, 00 4, 18 4, 70 5, 88
1918 1919 1920 1921 1922	3.62 6.00	5. 88 4. 59 6. 00 3. 25 4. 00	5. 88 4. 06 6. 25 3. 25 4. 00	5. 56 4. 41 6. 25 3. 25 4. 00	6. 08 4. 62 4. 50 3. 25 4. 00	8. 28 3. 97 2. 75 7. 43 4. 00	8, 38 4, 53 3, 05 9, 82 4, 00	8.38 5.50 3.25 7.50 4.00	8.38 5.88 3.25 7.50 4.00	8. 38 8. 75 3. 25 7. 50 9. 00	8. 38 6. 00 3. 25 7. 50 9. 00	4. 81 6. 00 3. 25 7. 50 8. 60

¹ Compiled from New York Journal of Commerce.

CITRUS FRUITS-Continued.

Table 287.—Grapefruit, Floridas (excluding russets): Monthly average wholesale prices at New York market, 1908 to 1922.

Year.	Jan.	Feb	Mar.	Apı	May	June	July.	Oct.	Nov.	Dec.
1908	\$5 40 3.15 3 50 3 50 4 00 2 95 3 80 2.38 3 56	\$5 75 3. 12 4 34 3 53 4 75 3. 50 3. 81 2 38 3 38	\$5. 94 3. 12 4 28 3 69 4 95 3 12 3. 78 2 25 3. 50	\$5.50 3.90 4 38 3.34 6.44 3.38 4.06 2.62 3.62	\$4 90 5 25 4 39 3 75 7. 38 3. 80 3 45 2. 81 3. 50	\$5 25 4.09 5.75 3.06 3.88 4.38	84 75	\$3 88 3. 21 5. 00 6. 41 4. 00 5. 08 3. 06 5. 25	\$3.62 3 47 4 59 4.69 3.62 4.78 2.78 4.16 4.50	\$3, 53 3, 50 3, 65 4, 78 3, 47 3, 62 2, 53 3, 45 4, 35
1917 1918 1919 1920 1921 1922	3 75 4 75 4 75 6 25 6.12	4. 12 4. 75 4. 06 6. 25 6. 12	4. 12 4. 62 4. 88 4. 00 6. 25 6. 12	4. 62 6. 56 4. 40 6. 25 6. 12	4. 62 7. 25 5. 56 6 25 6. 12	7. 75 4. 38 6. 00 6. 12	4. 75 4. 15 5. 25	5.38	4.75 4.75 6.25 5.38	4.75 4.75 6.25 5.38

¹ Compiled from New York Journal of Commerce.

FRUITS AND NUTS.

Table 288.—Fruits and nuts: Production and value in California, 1920-1922.

[Estimates of the agricultural statistician for California]

	[1250]	many or t	ne agneun	mai sta	i(ISHIOI	1102 0				
Market Street,	Prod	Production in tons				on	Total value.			
Crop.	1920	1921	1922	1920	1921	1922	1920	1921	1922	
Almonds Apirots Cherries Figs Grapes, raisin Grapes, table Lemons, boxes Oranges, boxes Olives Plums Prines Walnuts	190,000 4,955,000	100, 000 13, 000 9, 600 115, 000 310, 000 4, 650, 000 13, 000, 000 8, 200 42, 000, 000	120,000 12,000 12,000 235,000 420,000 4,300,000 4,500,000 5,400 95,000	85 00 200 00 90 00 235 00 75. 00 75. 00 2 2. 92 2 2. 18 95. 00 90 00 130 00	50. 00 125. 00 145. 00 190. 00 82. 00 75. 00 2 3. 45 2 2. 80 90. 00 53. 00 130. 00	70, 00 180 00 120 00 115, 00 65 00 52, 00 2 3, 40 2 2, 55 125, 00 50 00 140, 00	9, 350, 000 3, 500, 000 41, 595, 000 28, 125, 000 14, 250, 000 47, 088, 000 760, 000 3, 150, 000 12, 643, 000	\$1, 920,000 5,000,000 1, 625,000 1, 322,000 27, 550,000 25, 420,000 13, 972,000 13, 972,000 136,400,000 1, 38,000 1, 392,000 1,	2, 160, 000 1, 440, 000 27, 025, 000 27, 300, 000 12, 480, 000 15, 300, 000 42, 075, 000 2, 300, 000 13, 300, 000	
because were enterpresent to the Table						1		oot mannaga	nt the fruit	

¹ Representing the commercial crop year beginning Oct. 1; 1. c., the numbers for 1921 represent the fruit that set during the season of 1921 and will be picked and marketed between Oct. 1, 1921, and Oct. 1, 9122.

² Per box.

CRANBERRIES.

Table 289.—Cranberries: Acreage, production, and facm value, by States, 1921 and 1922, and totals, 1914-1922.

[Leading producing States.]

State and year.	Acreage.		Average vield, in barrels per acre		Production (thou ands of barrels).		Average farm price per barrel Dec. i.		Farm value (thousands of dollars).	
	1921	1922 1	1921	1922	1921	1922 1	1921	1922	1921	1922 1 "
Massachuseits New Jersey Wisconsin	13,000 10,000 2,000	12,000 11,000 2,000	15.0 16 0 14.4	23. 4 18. 2 31. 0	195 160 29	300 200 62	\$20,00 14 00 13,30	\$10.50 9.75 10.00	3,90 0 2,210 386	3, 150 1, 950 620
Total	25,000	25,000	15 4	22. 5	384	562	16 99	10.18	6, 526	5,720
1920. 1919. 1918. 1917. 1916. 1913. 1914.	25, 25, 18, 26, 23,	000 000 400 200 200 100 000	22 13 13	.0	5	71 1	8. 10. 10. 7. 6		5, ; 4, ; 2, ; 2, ; 2, ;	597 791 550 119 108

¹ Pieliminary estimate.

Table 290.—Cranberries: Forecasts of production, monthly, with preliminary and final estimates.

Year	September.	October	November production estimate.	Final estimate,
1918. 1919. 1920. 1921. 1922.	Barrels, 495, 000 637, 000 471, 000 422, 000 511, 000	Barrels, 488, 000 559, 000 119, 000 388, 000 556, 000	Barrels, 374, 000 546, 000 432, 000 376, 000 561, 000	Barrels, 352,000 549,000 419,000 381,000 1 562,000

¹ Preliminary estimate.

HOPS.

Table 291.—Hops: Area and production in undermentioned countries, 1909-1922.

		Ar	ea.			Produ	iction.	
Country.	Average, 1909–1913.	1920	1921	1922.1	A verage, 1909–1913	1920	1921	1922 1
NORTH AMERICA Canada Umted States 2, b EUROPE	1,000 acres. 3 1 7 45	1,000 acres. 28	1,000 acres.	1,000 acres 26	1,000 pounds 4 1, 208 53, 655	1,000 pounds 34,280	1,000 pounds 29, 140	1,000 pounds 5 606 31, 528
United Kingdom England 2 Belgium 2 France 2 Germany 2 Austria Czechoslovakia Hungary Yugoslavia Croatia Slavonia Poland Russia, in cluding Ukraine and Northern Caucasia	3 36 3-6 3,8 7 3,8 67 3,8 50 3,8 5 3,8 1 8 3	21 4 10 29 (°) 21	25 4 11 28 (9) (9)	5 26 5 11 31 19	33,038 7,096 8,6,948 8 30,105 8 27,523 8 2,032 3 263 3 1,125	31, 472 5, 038 10, 387 13, 283 90 11, 609 5 1, 653	20, 088 3, 722 6, 646 7, 051 100 6, 401 3, 417	5 33, 712 4, 150 5 7, 441 5 11, 952 11, 240 5 3, 197
Australia New Zealand	3 <u>1</u> 4 <u>1</u>	(⁹)	(9)		1,564	1, 462 701	5 1, 984 685	5 1, 543
Total ²	161	92	96	99	130, 862	94, 460	71,647	88, 783
Total all coun- tries report- ing	223	114	115	118	177, 542	112, 180	85,667	108, 951

Table 292.—Hops: World production so far as reported, 1895-19??.

Year.	Production.	Year.	Production.	Year.	Production	Year	Production.
1895 1896 1897 1898 1899 1900	168, 509, 000 189, 219, 000 166, 100, 000 231, 563, 000	1902 1903 1904 1905 1906 1907 1908	Pounds. 170, 053, 000 174, 457, 000 178, 802, 000 277, 260, 000 180, 998, 000 215, 923, 000 230, 220, 000	1909 1910 1911 1912 1913 1914	Pounds. 128, 173, 000 188, 951, 000 163, 810, 000 224, 193, 000 174, 612, 000 221, 179, 000 163, 084, 000	1916 1917 1918 1919 1920 1921	

¹ Figures for 1922 compiled from reports received up to Nov. 1, 1922. ² Countries reporting for all periods either as listed or as part of some other country.

² Countries reporting (
4 2-year average
4 3-year average
5 Unofficial
6 4 States only
7 1 year only
8 Old boundaries.
9 Less than 500 acres.

HOPS-Continued.

Table 293.—Hops: Acreage, production, and farm value, by States, in 1921 and 1922, and totals, 1915-1922.

[Leading producing States]

Acr State and year		Acreage.		Average yield in pounds per acie.		Production (thousands of pounds).		Average farm price, cents per pound Dec 1		Farm value (thousands of dollars)	
	1921	1922 1	1921	1922	1921	1922 1	1921	1922	1921	1922 1	
Washington Oregon California	3,000 12,000 12,000	1,000 12,000 9,000	1,700 770 1,250	1,550 800 1,640	5, 100 9, 240 15, 000	1,550 9,600 14,760	20 25 25	10 9 8	1,020 2,310 3,750	155 864 1,181	
Total	27,000	22,000	1,086.7	1,177.7	29,340	25, 910	21 1	8.5	7,080	2, 200	
1920. 1919. 1918. 1917. 1916. 1915.	28, 000 21, 000 25, 900 29, 900 13, 900 41, 653		1, 224. 3 1, 189 0 829. 4 982 9 1,152 5 1,186 6		34, 280 24, 970 -21, 181 29, 388 50, 595 52, 986		35. 7 77. 6 19. 3 33. 3 12. 0		12, 236 19, 376 4, 150 9, 795 6, 073 6, 203		

¹ Preliminary estimate

Table 294.—Hops: Forceasts of production, monthly, with preliminary and final estimates.

Year.	July.	August	September.	October production estimate	Final esti- mate.
1918. 1919 1920. 1921. 1922.	1,000 pounds 32,494 33,912 38,764 32,471 33,422	1,000 pounds 30,473 31,906 37,666 31,196 31,838	1,000 pounds. 31,325 34,813 38,685 29,479 32,481	1,000 pounds. 33, 121 38, 893 29, 750 31, 528	1,000 pounds. 21, 481 21, 970 31, 280 29, 340 1 25, 910

¹ Preliminary estimate.

Table 295.—Hop consumption and movement, 1910-1922.

[The total hop movement of the United States for the last 12 years is shown. The figures on the quantity consumed by brewers have been compiled from the records of the Treasury Department; exports and imports are as reported by the Department of Commerce.]

Year ending June 30—	Consumed	Expo	ts.	Total of brewers'		Net
	by brewers.	Domestie.	Foreign.	consump- tion and exports.	Imports	domestic movement.
1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1919. 1920. 1921.	45,068, 811 42,436,665 44,237,735 43,987,623 38,839,294 37,451,610 41,949,225 33,481,415 13,924,650 16,440,894	Pounds. 10, 580, 254 13, 104, 774 12, 190, 663 17, 591, 195 24, 262, 896 16, 210, 443 22, 409, 818 4, 874, 876 3, 494, 579 7, 466, 952 30, 779, 508 22, 206, 028 19, 521, 877	Pounds. 14, 590 17, 974 35, 859 35, 859 30, 224 16, 947 134, 571 26, 215 37, 823 4, 719 104, 198 827, 803 487, 633	Pounds, 53, 897, 608 58, 191, 559 54, 663, 197 61, 864, 789 68, 280, 743 55, 086, 684 59, 995, 999 46, 850, 316 37, 013, 817 21, 396, 321 37, 324, 600 29, 022, 813 24, 462, 186	Pounds. 3, 200, 560 8, 557, 581 2, 991, 125 8, 494, 144 5, 382, 025 11, 651, 332 675, 704 236, 849 121, 288 6 2, 696, 264 4, 807, 998 893 324	Pounds. 50, 697, 048 49, 634, 028 51, 672, 072 53, 370, 645 62, 898, 718 43, 415, 352 59, 320, 295 46, 613, 467 36, 892, 529 21, 306, 315 34, 628, 336 24, 214, 815 23, 568, 862

HOPS-Continued.

Table 296.—Hops: Wholesale price per pound, 1913-1922.1

Date.	New Yo	ork State, j choice.	prime to	San Francisco.			
	Low	Hıgh	Average.	Low	Hıgh.	Average	
1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1922. January. February y March April May June July August September Octobet November December	30 26 22 22 22 22 20 19 22 22 22	Cents 48 48 30 30 35 90 54 85 103 50 40 35 32 30 25 25 23 24 24 24 24	37. 9 59 9 80. 2 37 0 37. 1 32. 2 28 4 24 1 23. 5 23. 2 22 22 22 20 23 0 23 0 23 0	Cents 19 10 10 7 6 19 34 33 12 25 25 13 13 13 19 10 10 10	Cents 30 30 15 14 40 22,5 84 85 35 30 30 30 30 88 18 18 18 15 15 15 15	Cents 19. 5 59. 2 61. 6 24. 4 27. 5 27. 5 27. 5 17. 4 15. 7 15. 7 15. 7 15. 7 15. 7 15. 7 15. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12. 5 12.	
Year	19	40	25 3	9	30	17.6	

¹ Compiled from Journal of Commerce, New York; Daily Commercial News, San Francisco.

Table 297.—Hops: International trade, calendar years 1909-1921.

[Lupulin and hopfenmehl (hop meal) are not included with hops in the data shown. See "General note," Table 161.]

Appellation from the print of the second distribution of	Average,	1909–1913	19	19	19	20	19	21
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORT- ING COUNTRIES. Austria-Hungary. Germany. New Zealand. Russia United States. PRINCIPAL IMPORT- ING COUNTRIES.	1,000 pounds. 938 7,688 61 1,258 6,235	1,000 pounds. 18,333 17,564 352 2,348 15,416	1,000 pounds. 28 467	1,000 pounds. 248 20,798	1,000 pounds. 11,117 87 19	1,000 pounds. 1 69 21,624 181 25,624	1,000 pounds. 11,247	1,000 pounds. 1 650 235
Australia Belgium British India British South Africa Canada Denmark France Netherlands Sweden Switzerland United Kingdom Other countries	1, 108 6, 915 246 391 1, 396 1, 027 5, 436 2, 938 2, 938 1, 257 21, 028 4, 062	22 4,814 (2) 176 31 335 1,405 1 42 2,162 2,162 10	270 8, 089 480 552 1, 780 1, 417 2, 937 1, 178 834 166 17, 258 4, 558	23 2,653 7 1,618 1,471 17 292 2 27,130	1, 254 16, 457 122 476 1, 657 5, 877 1, 562 998 153 51, 049 4, 557 91, 860	7 12, 222 63 28 4, 170 3, 013 766 411 6 68, 184	8, 485 264 419 2, 140 511 2, 565 1, 072 684 492 24, 256 2, 391 46, 155	321 5, 806 1, 311 246 31, 257

¹ Austria only.

² Less than 500.

¹¹ year only

BEANS.

Table 298.—Beans: Area and production in undermentioned countries, 1909-1922.

[Includes statistics for all dried beans grown in the several countries: i. e, navy beans in the United States, broad and horse beans, kidney beans, soy beans, and a few other varieties in foreign countries]

			Area.		
Country	Average, 1909-1913.	1919	1920	1921	1922 1
Northern Hemisphere.					
NORTH AMERICA.	1.000 acres.	1,000 acres.	1.000 acres.	1,000 acres.	1.000 acres.
Canada ² United States ² Mexico Guatemala	51 8 788	41,060	72 4 838	62 4 771	61 41,093 45
EUROPE.					
United Kingdom England and Wales 2 Scotland 2 Ireland 3 Sweden 2 Denmark 2 Netherlands 2 Belguin 2 Luxemburg	277 9 2 10 9 64 21	271 7 2 6 6 24 98 45	246 6 2 5 6,7 44 78 40	247 5 2 5 5 5 7 47 76 40	285 4 6 47 75 39
France ² . Spain ² . Italy ² . Germany.	8 554 1, 132 2, 023	8 513 1,266 2,302	565 1,213 2,318	604 1,212 2,377 9,61,729	9,61.208
Austria. Czecho, lovakia	6,8618	6, 10 <u>16</u>	$\frac{9}{21}$	52	
Hangary II Do, 12-18 Serbiu, ('roatia-Slavonia II Do 12 Yugosla via	8 4 4 9 1, 471 9 50 8 472		••••••		
Bulgara 631 Do 19 Rumania 4 Do 12 Poland 2. Finland Russa, including Ukraine and Northein Caucasia.	8 1 11 8 64 8 93 8 1, 265 8 29 16 19 8 527	92 85 869 81,180 (11)	126 86 8 118 8 1, 232 198	1a S6	
AFRICA AND ASIA. Algeria. Tumis	110 17 35	70	.55		
Egypt ² India: British ^{2, 6} Native States ⁶ Asiatic Russia (9 Governments).	18 514 18 13, 156 3, 649 8 22	524 7,567 1,603	434 12,641 4,630	9, 205	495
Japanese Empire: Japan Chosen Formosa 6	18 1, 598 1, 229 18 79	1,469 2,496 86	1,613 85		

- Figures for 1922 and 1921–22 compiled from reports received up to Nov. 1, 1922.
 Countries reporting for all periods except 1922 either as listed or as part of some other country.

- * Six States only.

 * Seven States only.

 * Includes peas.

 * Includes other pulse.

 * Includes incorporated. 7 Includes incorporated South Jutland provinces.
- 8 Old boundaries.
- 9 Unofficial.

 10 Bohema, Moravia, and Silesia only.
- 11 Grown alone.
 12 Grown with corn.
- 13 Four-year average.
 14 Included under peas.
- 15 Excludes former Prussian Poland where beans are included under peas.
- 16 One year only. 17 Three-year average.

BEANS-Continued.

Table 298.—Beans: Area and production in undermentioned countries, 1909-1922— Continued.

	Contin	uea.			
			Area		The street of the street of the state of the street of the
Country.	Average 1908-09 to 1912-13	1918–19	1919-20	1920–21	1921-22 1
SOUTHERN HEMISPHERE. Chile ² . Argentina. Madagascar.	1,000 acres	9 12			1,000 acres
Australia 4 New Zealand	. 4	0 5 (5)	(5) 4·	(5)	
Total 2	18,74	6 13,69	0 18,84	15,358	
Total all countries reporting	30, 37	3 20, 92	3 26,86	28,362	
			Production.		
Country.	Average, 1909–1913.	1919	1920	1921	1922 1
NORTHERN HEMISPHERE. NORTH AMERICA. Canada ² . United States ² Mexico. Guatemala	1,000 bushels 9×0 6 11,166	1,000 bushels 1,389 713,349	1,000 bushels. 1,265 7 9,077	1,000 busnels. 1,090 7 9,118 3 2,611	1,000 bushels 976 713,013 72,510
United Kingdom England and Wales? Scotland 2 Ireland Sweden 2 Denmark 2 Netherlands 2 Belgium 2 Luxemburg France 2 Spain 2	8,048 318 67 174 369 1,853 604 73 10 9,518 11,908	6, 840 262 139 8 644 2, 941 1, 183 10 5, 681 12, 812	7,656 215 107 8,9 1,357 2,588 1,360 8,250 13,661	6, 224 150 3, 91, 191 2, 020 1, 034 5, 793 12, 276 18, 453	7,120
Italy 2 Germany Austria. Czechoslovakia Hungary 12 Jo 13,14 Serbia, Croatia-Slavonia 12 Do 13	21,038 8,109,666 10599 106,917 101,941 102,011			790	
Yugoslavia Bulgaria 4,19 Do 13 Rumania 12 Do 13 Poland 2 Finland Russia, including Ukraine and Northern Caucasia	10 1, 459 10 225 10 1, 385 10 3, 630 10 505 260	669 207 10 872 10 3, 115 (5) 288	1, 253 363 2, 689	16 [, 167	

¹ Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.
2 Countries reporting for all periods except 1922 either as listed or as part of some other country 3 Unofficial.
4 Includes peas.
5 Included under peas.
6 Six States only.
7 Seven States only.
8 Includes other pulse.
9 Includes other pulse.
9 Includes other pulse.
10 Old boundaries.
11 Bohemia, Moravia, and Silesia only.
12 Grown alone.

BEANS-('ontinued.

Table 298.—Beans: Area and production in undermentioned countries, 1909-192,-Continued.

			Production		
Country.	A verage, 1909-1913.	1919	1920	1921	1922 1
NORTHERN HEMISPHERE—Contd. AFRICA AND ASIA.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels.	1,000 bushels
Algeria Tunis Egypt ³ India:	1,132 2317 214,268	393 12, 711	250 10, 494		
British 3, 4	5 143, 360	71,699	137, 573	88, 196	
Native States 4. Asiatic Russia (9 Governments)	6 225			7,86,706,081	
Japanese Empire Japan Chosen Formosa ⁴	2 23, 175 14, 240 2 657	27, 184 19, 150 737	30, 025 658		
Southern Hemisphere.	A verage, 1908-09 to 1912-13.	1918-19	1919-20	1920-21	1921-221
Chile 3. Argentina.	1,398	1,713	1,689	1,694	2,063
Madagascar Australia ⁹ New Zealand		7 712 815 (10)	7 698 521 (¹⁰)	⁷ 551	7 698
Total 3	225, 507	145, 907	210, 433	160, 892	•••••
Total all countries reporting	300, 365	200, 805	244,691	6, 870, 925	

¹ Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.
2 Three-year average.
3 Countries reporting for all periods except 1922 either as listed or as part of some other country.
4 Includes other pulse.
5 Two-year average.
6 Old boundaries.

[Leading producing States.]

State and year.	Thousands of acres.		Average vield in bushels per acre.		Production (thousands bushels).		price pe	ge farm i bushel : 15.	Farm value (thousands of dollars).		
	1921	1922 1	1921	1922	1921	1922 1	1921	1922	1921	1922 1	
New York. Michigan. Wisconsin. Colorado. New Mexico. Arizona Idaho. California	67 263 5 39 105 8 18 272	93 458 8 81 45 7 26 325	16. 0 11. 3 10. 3 8. 0 8. 0 8. 5 12. 0 13. 3	14. 0 10. 5 9. 5 5. 0 3. 0 3. 5 14. 0	1, 072 2, 972 52 312 840 68 216 3,618	1,302 4,809 76 405 135 24 364 4,778	\$2, 95 2, 40 3, 02 2, 70 2, 50 3, 50 2, 95 2, 80	\$3.80 3.65 3.60 4.40 4.50 4.50 3.40 3.75	\$3, 162 7, 133 157 842 2, 100 238 637 10, 130	\$1,948 17,553 274 1,782 608 108 1,238 17,918	
Total	777	1,043	11 8	11.4	9,150	11,893	2 67	3 74	24, 399	44, 429	
1920. 1919. 1918. 1917.	838 1,060 1,714 1,821		10. 8 12 6 10. 0 8. 8		9, 077 13, 319 17, 397 16, 045		4. 5.	95 26 28 50	26, 806 56, 811 91, 863 104, 350		

⁷ Unofficial.

⁸ Data for a recent year.
9 Includes peas.
10 Included under peas.

Table 299.—Beans (dry): Acreage, production, and value, by States, 1921 and 1922, and totals, 1914-1922.

BEANS-Continued.

Table 300.—Beans: Forecast of production, monthly, with preliminary and final estimates.

Year.	July.	August	September.	October production estimate.	Final estimate.
1917. 1918. 1919. 1920. 1921. 1922.	1,000 bushels 22,141 19,791 12,302 9,451 8,982 12,747	t,000 bushels 19,443 19,497 11,638 9,074 8,783 12,814	1,000 bushcls. 19,969 19,894 11,363 9,101 8,780 12,514	1,000 bushcts 15,814 17,802 12,690 9,364 9,332 13,013	1,000 bu shels 16,045 17,397 13,349 9,077 9,150

1 Preliminary estimate.

Table 301.—Beans: Farm price per bushel on 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar	Apr.	Мау.	June.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Average.
1910	\$2.23	\$2 23	\$2 17	\$2 16	\$2.17	\$2 29	\$2.34	\$2 27	\$2 28	\$2 25	\$2 14	\$2.20	\$2.23
	2 20	2 23	2 17	2 20	2 17	2 19	2 23	2 20	2 26	2 27	2 34	2 42	2 24
	2 38	2 38	2. 42	2 37	2 52	2 62	2 47	2 40	2 38	2 34	2 25	2 31	2 40
	2 26	2 19	2 10	2 11	2 18	2 23	2 22	2 11	2 08	2 25	2 20	2.12	2 17
1914.	2.17	2 09	2 05	2 11	2 31	2 23	2. 22	2 54	2 46	2 17	2 28	2.40	2 25
1915.	2 63	3 02	2 89	2 81	2 93	2 87	2 75	2 67	2 70	2 93	3 03	3 30	2 88
1916.	3.47	3 43	3 34	3 42	3 56	3 72	5 09	4 59	4 60	4 47	5 53	5 77	4.25
1917.	5 71	6 07	6 49	7 37	8 94	8.99	8 07	7 29	6,69	7 48	7 33	7.00	7 29
1918.	7 00	7 08	6 95	6 95	6 67	6 28	5 88	6 11	5 67	5 52	5 46	4.86	6 20
1919.	4 98	4 52	4 40	4 44	4 19	4 39	4 25	4 30	4.36	4 27	4 42	4 41	4 41
1920.	4 70	4.47	4 32	4 41	4 36	1 49	4 47	4 17	3 83	3 47	3 27	2.99	4.08
1921.	2 95	2 85	2 89	2 69	2 73	2 82	2 75	2 83	2 99	2 87	2 85	2.83	2 84
1922.	2.86	3 04	3 64	3 77	4 02	4 18	4 29	4 09	3.22	3 36	3 71	3 91	3.70
Average, 1913- 1922	3.87	3 88	3 91	4.01	4 19	4 25	4 20	4 07	3.86	3.88	4 01	3.96	4.00

Table 302.—Beans: Wholesale price per 100 pounds, 1913-1922.

TABLE 302.	1	ston, p		1	cago, p		Detroit, pea.			San Fiancisco, small white.		
Year and month.	Low.	High.	Aver-	Low.	High.	Avei-	Low.	High.	Aver-	Low.	Пıgh.	Aver- age.
1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 January	9 00 6.00 4.75 4.25 5.00 5.35 6.50 7.25 7 35 9 25	\$2.60 3 10 4 10 7.25 14 00 10.00 8 25 5.50 5.25 7.25 7.50 9.00 10.50 9.50 8.00 8.25 8.00 8.25 8.00 8.25 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.	\$2 36 2 10 3 36 4 96 9 24 12 771 6 98 4 88 5 14 5 58 7 31 8 9 69 9 75 9 9 75 7 7 6 81	1 60 2 40 3 00 6 40 8. 25 6 50 4 25 3 60 4 60 5. 20 6 7 25 7 . 30 8. 50	\$2.50 3 10 4 10 8 00 14 50 15 00 9 50 5 50 5 25 6.50 7.75 8.25 8.75 11.15 9 40 8.50 8.50 8.50 8.75 11.15 9.50 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8.00 8	\$1 81 2 222 3 19 4. 24 9 09 17. 92 6 76 4 61 4. 93 5 76 7 01 7 7 82 9 78 9 78 9 78 9 78 9 78 9 78 9 78 9 78	\$1 75 1 800 3 50 6 25 8 6 50 3 30 4 97 6 90 9 8 50 4 75 5 00 6 75	\$2 20 2 90 3 60 7 00 13 25 19 00 7. 90 4. 78 4. 90 6 35 7 10 7. 10 9 65 9 00 8. 75 5 25 6 60 7. 90 7. 90	\$2.50 2 222 3 06 4 82 8 675 17.54 6 25 3 99 4 48 5.57 6 94 1 8 80 5 87 6 87 7 13	\$4. 50 4 00 6 25 10 50 8 5 75 3 20 4 75 6 50 6 7 00 7 25 6 50 6 5. 20 5 5. 25 6 50 6 6. 25	\$6 00 6 40 11 50 12 75 8 90 5 75 4 90 5 75 6 50 7 75 7 50 6 10 6 10 6 75	\$5 16 4 98 5 .30 8 05 13 .20 11 64 7 .05 5 .72 4 03 4 .89 5 25 6 08 6 .50 6 .50 6 .50 6 .50 6 .50 6 .50 6 .50 6 .60 6 .6

BEANS—Continued.

Table 303.—Beans (dry): Carlot shipments by States of origin, 1918 to 1922.1

State.	1918	1919	1920	1921	1922
New York Michigan Colorado New Mexico Idaho. Californa. All other	833 763 133 177	111 1,765 178 422 232 4,681 69	351 2, 123 186 621 147 3, 481 86	1,305 5,855 524 971 145 3,759 152	1,557 4,945 482 288 226 3,610 87
Total	4, 144	7,791	6, 995	12,714	11,225

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.

SOY BEANS.

Table 304.—Soy beans: Farm price per bushel on 15th of month, 1914-1923.

Date.	1914-	1915–	1916-	1917-	1918 -	1919-	1920-	1921-	1922-
	1915	1916	1917	1918	1919	1920	1921	1922	1923
October November December January Fobruary	\$2.08 2 15 2 24 2 35 2 26	\$1.88 2 08 2 23 2 31 2 39	\$2 13 2 13 2 18 2 20 2 45	\$2 73 2 86 3 33 3, 47 3, 82	\$3, 36 3 20 3 29 3 00 3 00	\$3 34 3.35 3 11 3 76 4 05	\$3 41 3 00 2 28 2 18 2 17	\$2, 20 2 22 2 08 2 11 2 16	\$1 89 2.06 1.97

COWPEAS.

Table 305 .- Cowpeas: Farm price, cents per bushel, on 15th of month, 1915-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1915 1916 1917 1918 1919 1920 1921 1922	156.3 192.2 262.2 238.9 312.9 197.2 171.9	187. 0 157. 2 210. 0 292. 5 252. 1 372. 4 204. 2 179. 7	198. S 153. 7 231. 8 301. 5 248. 8 394. 0 201. 7 185. 8	203.7 150.2 253.4 292.8 267.6 421.4 215.5 184.8	201. 9 1 18. 8 293 1 283. 3 292. 3 484. 4 242. 7 189. 5	194. 5 140. 0 309. 1 257. 4 343. 9 483. 7 265. 1 184. 0	179. 8 135. 1 303. 2 248. 4 342. 8 470. 8 287. 2 170. 0	174. 1 1 11 3 265 1 241 3 310. 3 422. 7 240. 9 166. 5	155 1 142.4 217.0 226.2 269.4 368.8 199.7 157.4	156. 0 148 1 219. 5 233. 9 260 9 273. 7 201. 2 153. 6	151. 4 161 6 227 1 231 4 270 7 213. 4 184 8 160. 7	151, 8 177, 0 237, 5 237, 6 280, 6 229, 0 176, 1 167, 4

PEAS.

Table 306.—Peas: Area and production in undermentioned countries, 1909-1922.

			Area.				Prod	netion		
Country.	Aver- age, 1909- 1913.	1919	1920	1921	1922 1	Average, 1909–1913	1919	1920	1921	1922 1
Northern Hem- Isphere.										
NORTH AMERICA. Canada ² United States EUROPE.	1,000 acres. 304 31,305	1,000 acres. 230	1,000 acres. 186	1,000 acres. 193	1,000 acres. 190	1,000 bushels 5,097 3 7,129	1,000 bushels 3,406	1,000 bushels 3, 528	1,000 bushels. 2,770	1,000 bushels. 2,945
United Kingdom: England and Wales 2 Scotland 2 Ireland. Norway. Sweden 2. Notherlands 2	153 1 (¹) 47 65	132 (5) 95 79	129 (⁵) 9 92 64	106 (5) 9 94 63	77	3,988 14 8 1,227 1,581	3, 528 2 2, 057 2, 264	3, 544 2 174 2, 077 2, 010	2, 504 2 150 2, 088 2, 583	2,480
Belgium ² . Luxemburg ⁶ . France ² . Spain ² ⁷ . Italy ⁷ . Austria. Czechoslovakia. Hungary ^{6,8} Croatia-Slavoina ⁶ .	12 2 7,8 73 1,071 (4) (1) 32 11 12	8,9 45 901 4 7,10 53	9 57 927 927 6 7 169	9 54 912 7 196	7 205	390 34 7,8 1,308 10,402 3,829 (1) u 427 159	8,9 663 8, 000 3, 050 59 2,10 327	9 876 9, 044 2, 745 115 7 2, 529	374 9 614 7, 713 3, 222 7 2, 695	
Vigoslavia Bulgaria Rumanna 6 Poland? Freland Russia, including Uktoine and northern Cauca- su **	(1) 8 42	(1) 16 12,13 141 (1)	(1) 24 139	14 310		(1) 11 675 8,11 5, 248 (4)	(4) 250 12,18 1, 802 (1)	(*) 1, 796 (*)	(1)	
AFRICA AND ASIA.	25					296		70		
Tunis. Asiatic Russia (9 Governments) Japanese Empire Japan	91	204	100			794 15 1, 804	92 3,041	73 1, 554		
Formosa	15 10	(1)	(†) 8	8						

Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922.

2 Countries reporting for all periods except 1922 either as listed or as part of some other country

3 One year only.

4 Included under beans.

5 Less than 500.

6 Includes lentils

7 Includes lentils

8 Old boundaries.

9 Peas and lentils.

10 Bohemia, Moravia, and Silesia only.

11 Four-year average.

12 Includes beans and vetches.

13 Former Russian Poland, Western Galicia, and Posen.

14 Includes beans and lentils in former Prussian Poland.

15 Three-year average.

PEAS-Continued.

Table 306.—Peus: Area and production in undermentioned countries, 1909-1922—Con.

. Country.	Aver- age, 1908-9 to 1912-13.	1918-19	1919-20	1920-21	1921- 22 1	Average, 1908-9 to 1912-13.	1918-19	1919-20	1920-21	1921-221
SOUTHERN HEM- INPHERE.	1,000 acres. 26	1,000 acres. 53	1 000 acres.	1,000 acres.	1,000 acres.	1,000 bushels 387	1,000 bushels. 603	1,000 bushels 518	1,000 bushels 4 526	1,000 bushels.
New Zealand 2	5 16	18	14	14		507	506	369	355	
Total 2 Total all coun-	2,151	1,710	1,660	1,789		30,329	23,250	24,171	23,814	
triesiepoiting	6, 403	2,009	1,993	2,002	· · · · · ·	73, 546	30, 069	31,361	29,881	

BROOM CORN.

Table 307.—Broom corn: Acreage, production, and value, by States, 1921 and 1922, and totals, 1915-1922.

[Leading producing States.]

State and year.	Aer	eage.	Average yield in pounds per acte.		Production (tons).		brice	ge farm per ton r. 15.	Farm value (thousands of dollars).	
	1921	1922 1	1921	1922	1921	1922 1	1921	1922	1921	1922 1
Himois. Missour. Kansas. Texas Oklahoma. Colorado. New Mexico.	3,000 10,000 25,000 146,000 9,000 13,000	21,000 3,000 16,000 12,000 180,000 10,000 11,000	550 550 345 310 315 400 400	680 560 390 370 200 350 261	1,400 800 1,700 3,900 23,000 1,800 2,600	7,100 800 3,100 2,200 18,000 1,800 1,500	\$125 00 125 00 55 00 75 00 64 00 45 00 65 00	\$260 00 225 00 221, 00 200, 00 213, 00 195, 00 185, 00	550 100 94 292 1,472 81 169	1,816 180 685 410 3,834 351 278
Total	222,000	253,000	344. 2	272.7	38,200	34,500	72.20	220.70	2,758	7,614
1920 1919 1918 1917 1916 1915	366,000 345,000		265. 0 303. 4 310. 4 332. 8 329. 3 454. 1		36, 500 53, 100 62, 300 57, 400 38, 726 52, 242		126. 16 154. 57 233. 87 292. 75 172. 75 91. 67		1,605 8,254 11,570 16,801 6,690 4,789	

¹ Preliminary estimate.

Table 308.—Broom corn: Farm price per ton on 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910.	\$190	\$197	\$200	\$204	\$199	\$151	\$180	\$142	\$139	\$108	\$96	\$93
1911.	81	80	78	74	81	69	68	72	92	121	124	108
1912.	100	86	99	101	83	79	85	83	77	70	69	57
1913.	49	56	57	58	53	61	57	91	106	102	100	92
1914	94	95	91	89	85	88	88	91	77	67	66	5
1915	66	78	68	71	75	77	79	83	75	86	92	10
1916	104	104	104	96	101	102	103	120	129	168	173	172
1917	184	201	212	227	252	223	194	308	240	270	296	280
1918	249	254	242	222	206	222	235	232	300	265	205	172
1919	169	141	174	149	152	106	119	124	154	162	161	163
1920	163	123	130	145	146	145	113	142	125	126	123	88
1921	70	71	72	69	66	76	75	67	68	72	68	86
1922	71	88	80	76	82	87	84	122	175	193	221	238

¹ Figures for 1922 and 1921-22 compiled from reports received up to Nov. 1, 1922. 2 Countries reporting for all periods except 1922 either as listed or as part of some other country. 3 Includes chick peas, lentils, and vetches Excludes lentils.

⁵ Four-year average

BROOM CORN-Continued.

Table 309.—Broom corn: Forecasts of production, monthly, with preliminary and final estimates.

Year.	July.	August	Sep- tember.	October production estimate.	Final estimate.
1917. 1918. 1919. 1920. 1921.	Tons 55, 310 70, 500 56, 500 43, 400 32, 200 44, 000	Tons. 62,900 59,100 45,400 32,700 38,500	Tons 59,300 56,100 60,300 45,500 33,100 36,900	Tons 50,100 52,100 55,800 37,000 30,200 31,900	Tons. 57, 400 57, 800 53, 400 36, 500 38, 200 1 34, 500

¹ Preliminary estimate.

PEANUTS.

Table 310.—Peanuts: Acreage, production, and value, by States, 1921 and 1922, and totals 1916-1922.

State and year.	Aere	eage.	in po	ge yield unds acie.	(thous	uction ands of nds).	Averag price, co pound I	ge faim ents per Nov. 15.		value ands of ars).	
	1921	1922 1	1921	1922	1921	1922 1	1921	1922	1921	1922 1	
Virginia North Carolina South Carolina Georgia.	153 141 36 202	130 127 36 160	820 919 825 660	600 895 760 602	125, 460 129, 579 29, 700 133, 320	78,000 113,665 27,360 96,320	5.8 5.6 4.0 2.5	5.5 4.0 5.0 4.7	7,277 7,256 1,188 3,333	4, 290 4, 547 1, 368 4, 527	
Florida TennesseeAlabama Mississippi	80 9 330 19	72 13 205 18	675 943 550 650	624 700 550 675	54,000 8,487 181,500 12,350	44, 928 9, 100 112, 750 12, 150	3. 2 5. 0 2. 8 6. 0	5.0 4.5 4.8 6.0	1,728 421 5,082 741	2, 246 410 5, 412 729	
Louisiana Texas Oklahoma Arkansas	18 195 15 16	18 172 17 18	487 635 720 720	600 560 620 643	8,766 123,825 10,800 11,520	10,800 96,320 10,540 11,574	6.0 3.4 7.0 5.0	6.9 4.0 3.8 6.0	526 4,210 756 576	745 3, 853 401 694	
Total	1,214	986	683.1	632 4	829, 307	623, 507	4.0	4.7	33,097	29, 222	
1920 1919 1918 1917 1916	1,1 1,8 1,8	1, 181 1, 132 1, 865 1, 842 1, 043		712. 5 691. 9 664. 9 777. 7 881. 1		841, 474 783, 273 1, 240, 102 1, 432, 581 919, 028		5.3 9.3 6.5 6.9 4.5		44, 256 73, 094 80, 271 98, 512 41, 243	

¹ Preliminary estimate.

Table 311.—Peanuts: Farm price, cents per pound on 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	4.9	5.4	5.0	5. 4	5. 2	5. 4	5.2	4.5	4.5	4.6	4.7	4.5
1911	4.4	5.0	4.8	4. 9	4. 8	5. 2	5.0	5.3	5.1	4.6	4.4	4.4
1912	4.3	4.7	5.0	4. 9	4. 9	5. 2	4.9	5.0	4.8	4.7	4.7	4.6
1913	4.6	4.5	4.7	4. 8	4. 7	5. 0	5 1	4.9	4.9	4.8	4.4	4.8
1914	4.7	4.7	4.7	4.9	5.1	5.1	5.2	4.9	5.0	4.5	4.4	4.3
	4.5	4.4	4.2	4.5	4.8	4.8	4.7	4.5	4.4	4.3	4.2	4.2
	4.3	4.4	4.4	4.6	4.6	4.7	4.6	4.6	4.4	4.4	4.4	4.7
	4.9	5.3	5.5	6.2	7.2	7.7	7.6	7.2	6.6	6.1	7.1	7.1
1918	7.0	7. 2	7.4	8.3	8. 2	7.9	7.8	7. 9	8.3	6.9	6.6	6.1
1919	6.0	6. 9	7.0	6.9	7. 2	7.7	8.2	8. 1	8.3	8.1	9.1	9.1
1920	9.9	10. 5	11.2	10.9	11. 2	11.2	11.0	8. 5	8.0	5.8	5.3	4.7
1921	4.4	4. 1	4.0	3.5	3. 4	3.8	3.8	3. 9	4.0	4.0	3.7	3.5
1922	3 6	4. 0	4.3	3.9	3. 9	4.2	4.4	4. 4	4.7	3.6	4.7	5 0

PEANUTS-Continued.

Table 312.—Peanuts, unshelled: International trade, calendar years 1911-1921.1

	Average,	1911-1913.	19	19	19	20	19	21
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Anglo-Egyptian Sudan Brazil British India. China. Dutch East Indies Formosa F.ench possessions in India. Gambia. Gambia Gambia (Portuguese) Japan. Mozambique Nigeria Senegal Spain Uganda Upper Senegal and Niger PRINCIPAL IMPORTING COUNTRIES.	1 21,098 2168	1,000 pounds. 1,961 274 503,448 138,472 60,282 60,282 4,863 21,295 10,675 2 15,907 17,163 425,937 9,205 1,045	1,000 pounds. 23,970 473 10 25,131 27	1,000 pounds. 7,489 450 129,344 251,295 47,787 2,140 16 2,922 11,587 34,031 629,126 10,377	1,000 pounds. 26, 159 727 756	1,000 pounds. 6,274 1,975 271,358 246,343 52,330 530 11,928 18,359	1,000 pounds. 22,815 797	
Algeria. Argentma Belgium Camda Denmark Egypt France Germany Hougkong Italy Netherlands Philippine Islands Singapore Tunis British South Africa United Kingdom United States Other countries	171,970 122,862 2,261 220,092 21,159	218 2 43,393 1,637 47,107 3 98 32,863 2 12,191 1 6,804 19,070 1,826,939	2,319 285 15,736 18,207 7,962 591,055 56,545 7,135 24,8915 2,284 597 808 238,755 41,937 976 1,083,127	324 19,778 2,309 1,201,453	2,729 20,134 10,811 7,819 1,062,099 21,939 31,015 52,946 3,211 15,289 1,138 1,938 322,074 171,919 5,721 1,805,369	5, 146 3, 445 5, 707 1, 165 5, 550 58 9, 366 1, 787 647, 063	20, 070 10, 398 10, 111 954, 832 52, 278 64, 478 3, 111 2, 022 781 216, 946 57, 984 11, 528	4, 994 11, 725 191 3, 923 189 14, 493 1, 616 756, 098

¹ Includes shelled and unshelled, assuming the peanuts to be unshelled unless otherwise stated. When shelled nuts were reported, they have been reduced to terms of unshelled at the ratio of 3 pounds unshelled to 2 pounds shelled.

² 2-year average.

³ 1 year only.

TRUCK CROPS.

Table 313.—Commercial acreage and production of truck crops in the United States, 1918-1922.

			010 10.	•						
i.	Number of States					Acreas	ge			
Crop.	pro- ducing.		1918	19	019	1920		1921		1922
Asparagus. Beans (snap). Cabbage Cantaloupes. Cauliflower Celet y. Corn (sweet). Cucumbers Lettuce. Onions. Poas (green) Potatoes (early liish) Strawberries Tomatoes. Watermelons.	12 31 28 24 4 8 16 29 15 21 20 21 20 27		100 (100 (100 (100 (100 (100 (100 (100	2 8 9 7 1 25 7 1 5 15 24 8 37	res. 28, 300 59, 300 64, 300 76, 900 77, 900 64, 200 65, 8, 600 65, 900 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 100 65, 10	Acres 31, 57, 121, 80, 7, 16, 267, 74, 32, 65, 167, 288, 93, 358, 159,	400 400 400 200 800 200 000 500 600 700 900 500	A cres. 33,00 55,00 103,30 83,50 8,60 15,20 133,00 89,60 31,40 57,90 152,70 292,10 109,60 207,70 165,80		Acres. 32, 300 62, 9n0 134, 600 108, 900 9, 500 18, 000 195, 000 44, 000 65, 000 184, 300 340, 900 131, 800
Crop.					Prod	uction				
_	1918		1919	•	1	1920		1921		1922
Asparagus (crates) Beans (snap) (tons). Cabbage (tons). Cantaloupes (crates). Cautaloupes (crates). Celery (crates). Corn (sweet) (tons). Cucumbers (bushels). Letture (crates). Omons (bushels). Peas (green) (tons). Potatoes (early Irish) (bushels). Strawberries (quarts). Tomatoes (tons). Watermelons (number).	2, 243, 0 110, 0 842, 0 7, 530, 0 1, 846, 0 3, 197, 0 5, 140, 0 19, 620, 0 147, 0 32, 234, 0 152, 447, 0 2, 125, 0 32, 353, 0	00 00 00 00 00 00 00 00 00 00	10' 634 10, 606 2, 066 3, 57' 8, 058 5, 68' 11, 576	3, 000 3, 000 5, 000 3, 000 6, 000 6, 000 6, 000 6, 000	1, 11, 2, 4, 6, 9, 21, 33,(155,)	483, 000 116, 000 079, 000 104, 000 089, 000 088, 000 610, 000 728, 000 446, 000 487, 000 175, 000 175, 000 175, 000 96, 000	1 1 1 3	3, 474, 000 107, 000 674, 000 1, 106, 000 2, 327, 000 4, 404, 000 364, 000 9, 876, 000 11, 000 13, 000 13, 000 9, 787, 000 933, 000 4, 569, 000		2, 296, 007 103, 000 1, 098, 000 13, 366, 000 5, 169, 000 10, 521, 000 1461, 000 18, 892, 000 195, 000 40, 936, 000 258, 245, 000 72, 656, 900

CANNED CORN.

Table 314.—Corn, canned: Production in the United States, 1905-1922.1

[Expressed in cases of 24 No. 2 can-.]

State.	1905	1906	1907	1908	1909	1910
MaineVermont.	1,348,751	939, 698	1,090,624	970, 000 (2)	698, 000 (2)	1,487,000
New York Pennsylvania	1, 583, 969 220, 022	1,422,012 199,920	659, 391 68, 570	620,000 (2) (2)	634, 000 (2) (2)	1, 145, 000 (2)
Delaware. Maryland ⁸ . Ohio.	95,300 1,676,240 1,140,631	110,040 1,058,492	75, 000 875, 506	1,010,000	(²) 432, 000 677, 000	(4) 970, 000
IndianaIllinois	1,025,606 1,963,617	648, 796 621, 433 1, 243, 106	361, 560 380, 778 1, 319, 525	938, 000 301, 000 856, 000	405, 000 1, 134, 000	936,000 746,000 2,027,000
Michigan Wisconsin	145, 152 443, 055	119,300 441,711	68, 300 169, 120	(3) 343,000	(2) 422, 000	(2) 222, 000
Minnesota	272,000 2,557,104 47,100	190, 933 1, 815, 900 29, 100	123, 945 1, 248, 725 18, 600	124,000 1,085,000	78, 000 902, 000 (2)	$ \begin{array}{c} 200,000 \\ 1,720,000 \\ (^2) \end{array} $
Nebraska Kansas	441, 000 53, 887	251, 300 32, 819	164, 000 23, 400	(2) (2) (2)	(2) (2)	(2) (2)
Allother United States	5, 231	9,136,960	7, 000 6, 654, 044	5\(\frac{42}{000}\)	405,000 5,787,000	10,063,000

CANNED CORN-Continued.

Table 314.—Corn, canned: Production in the United States, 1905-1922 1—Continued.

State.	1911	1912	1913	1914	1915	1916
Maine. New York Maryland Ohio Indiana Illinois Wisconsin Minnesota Iowa All other	351,000 301,000 2,741,000 1,044,000	801, 000 1, 009, 000 1, 517, 000 1, 376, 000 1, 235, 000 2, 438, 000 519, 000 321, 000 2, 961, 000 932, 000	650, 000 393, 000 1, 023, 000 984, 000 785, 000 1, 330, 000 377, 000 188, 000 884, 000	1,114,000 771,000 1,364,000 1,203,000 694,000 1,515,000 342,000 221,000 1,573,000 989,000	912,000 1,016,000 1,609,000 1,114,000 785,000 2,081,000 208,000 121,000 1,223,000 995,000	782,000 280,010 1,448,000 930,000 797,000 1,540,000 278,000 1,730,000 1,023,000
United States	14, 337, 000	13, 109, 000	7, 283, 000	9, 789, 000	10, 124, 000	9, 130, 000
State	1917	1918	1919	1920	1921	1922
Maine New York Maryland Ohio Indiana Illinois Wisconsin Minnesota Iowa All other United States	1, 200, 131 742, 491 2, 421, 953 165, 492 201, 969 2, 280, 366 965, 275	1, 112, 912 488, 912 2, 032, 941 1, 584, 064 512, 688 2, 199, 344 372, 924 309, 136 2, 300, 241 808, 695	1, 652, 000 1, 014, 000 2, 081, 000 1, 360, 000 584, 000 2, 225, 000 456, 000 2, 496, 000 1, 045, 000	1, 588, 000 829, 000 2, 217, 000 1, 514, 000 861, 000 2, 271, 000 643, 000 3, 246, 000 1, 251, 000	911, 000 561, 000 1, 130, 000 850, 000 709, 000 1, 711, 000 573, 000 1, 190, 000 629, 000	1, 066, 000 1, 911, 000 1, 911, 000 1, 973, 000 663, 000 1, 939, 000 598, 000 1, 959, 000 1, 959, 000 1, 959, 000 11, 419, 000

¹ Compiled from National Canners Association.

CANNED PEAS.

Table 315.—Peas, canned: Production in the United States, 1906-1922.1

[Expressed in cases of 24 No. 2 cans.]

Stat	e.	1906	1907	1908	1909	1910	1911	1912	1913
New York New Jersey Delaware Maryland Ohio Indiana Michigan Wisconsin All other		46, 900 333, 590 87, 000 364, 085 342, 901 1, 409, 497 550, 272	1,509,997 149,900 141,036 468,073 45,721 766,972 578,000 1,507,710 367,655 5,535,064	1, 325, 000 101, 000 110, 000 343, 000 199, 000 492, 000 492, 000 2, 200, 000 315, 000	381,000	553, 000	660, 000	1, 51 1, 000 (2) 3 270, 000 380, 000 276, 000 323, 000 760, 000 2, 658, 000 1, 126, 000 7, 307, 000	2, 252, 000 (2) 3 173, 000 318, 000 343, 000 419, 000 830, 000 3, 318, 000 1, 087, 000
						Maria Principal Art			
State.	1914	1915	1916	1917	1918	1919	1920	1921	1922
N. Y N. J. ⁴ Del. ⁵ Md Obio Ind III Wish Wish Utah Calif All other	1, 934, 000 295, 000 748, 000 470, 000 (6) 459, 000 3, 555, 000 50, 000 1, 034, 000	371,000 574,000 289,000 514,000 381,000 514,000 3,469,000 303,000 210,000	468, 000 131, 000 412, 000 248, 000 2, 763, 000 275, 000 228, 000	721, 160 321, 624 522, 532 421, 213 604, 470 3, 569, 185 754, 673 349, 910	331, 869 683, 007 441, 842 454, 229 978, 434 476, 650 4, 519, 934 491, 963 252, 836	248,000 306,000 381,000 433,000 425,000 4,317,000 395,000 205,000	549, 000 282, 000 271, 000 460, 000 549, 000 5, 804, 000 (6)	533,000 241,000 182,000 331,000 317,000 4,063,000 376,000 84,000	153,000 489,000 225,000 268,000 516,000 455,000 7,042,000 751,000 496,000
U. S	9,347,000	9,272,000	6,586,000	9, 820, 153	10, 898, 213	8,685,000	12, 317, 000	8, 207, 000	13, 042, 000

² Includes Virgima.

CABBAGE.

Table 316.—Commercial acreage, yield per acre, and production, in carloads containing 12.5 tons each of cabbage, 1920–1922.

Qt-4-		Acreage	•	Yıc	eld per ac	ere.	P	roduction	n.
State.	1920	1921	1922	1920	1921	1922	1920	1921	1922
Early: CaliforniaFlorida. Louisiana Texas.	Acres. 7,860 9,285 1,605 16,250	Acres. 7,315 5,367 1,585 11,210	Acres. 7, 325 11, 060 1, 955 14, 425	Tons. 7.1 6.8 8.2 4.8	Tons. 7.0 6.0 6.4 4.0	Tons. 6.0 7.0 6.0 5.0	Cars. 4, 464 5, 051 1, 053 6, 240	Cars. 4,096 2,576 812 3,587	Cars 3, 516 6, 194 938 5, 770
Total	35,000	25, 477	34, 765	6.0	5.4	5.9	16,808	11,071	16,418
Intermediate: Alabama. Georgia. Glinois Iowa Kentucky Maryland Mississippi Missouri New Jersey. New Mexico. New York (L. I.) North Carolina South Carolina Tennessee Virginia (Norfolk E.Shore) Washington.	1, 085 1, 605 1, 050 350 2, 185 1, 810 725 4, 552 2, 200 4, 550 308 1, 993 5775 2, 340 1, 026	1,600 1,325 605 350 2,055 1,365 700 4,220 4,150 4,50 3,965 4,195 920	2, 200 400 975 1, 540 300 2, 750 4, 460 700 4, 500 268 4, 500 350 5, 148 1, 430 950	7.8 7.8 8.0 6.6 5.8 8.0 8.1 6.0 8.0 7.5 7.4 4.0 5.8	8.0 7.0 5.0 6.0 6.5 6.5 8.1 6.5 8.6 6.5 9.7 6.8 8.0	8.5 5.0 8.0 6.0 5.0 7.0 8.0 9.0 11.0 6.0 7.5 7.0 8.0	677 78 1,040 672 185 1,014 1,216 464 2,930 9,2912 185 1,180 1,318 837	1, 024 84 530 242 168 789 655 454 2, 194 234 3, 079 320 2, 953 589	1, 496 160 624 986 144 1, 100 1, 784 392 2, 880 193 3, 980 168 3, 089 801 2, 880 684
Total	24, 949	26,838	34, 971	7.5	7.3	7.6	14,988	15, 589	21,341
Late: Colorado. Indiana. Michigan Minnesola. New York. Ohio. Oregon Pennsylvania. Virginia, sw Wisconsin	4, 390 1, 240 1, 970 3, 003 26, 597 2, 835 820 2, 905 2, 575 15, 137	3,995 1,090 1,612 2,651 22,895 2,168 775 2,720 2,500 10,540	5, 145 1, 335 3, 025 3, 471 24, 895 2, 555 900 2, 805 4, 155 16, 575	15. 1 9. 8 10. 7 8. 9 11. 6 9. 9 7. 7 10. 3 12. 2 10. 0	11. 7 6. 0 6. 5 5. 0 6. 5 6. 0 9 5 6. 0 6. 0	12. 0 7. 0 11. 0 9. 0 9. 0 8. 0 7. 0 9. 0 11. 0	5, 303 972 1, 686 2, 138 24, 682 2, 245 505 2, 394 2, 513 12, 110	3,739 523 838 1,060 11,905 1,041 589 1,306 1,200 5,059	4, 939 748 2, 662 2, 499 17, 924 1, 635 504 1, 571 2, 992 14, 586
Total	61, 472	50,946	64,861	11.1	6.7	9.6	54, 548	27, 260	50,060
Grand total	121, 421	103, 261	134, 597	8.9	6. 5	8, 2	86,344	53, 920	87, 819

Table 317.—Cabbage: Farm price per 100 pounds on 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.
1910	\$1.87	\$2.05	\$2.14	\$2.29	\$2.77	\$2. 19	\$2, 27	\$1.89	\$1.94	\$1.58	\$1.36	\$1.49
1911	1.56	1.48	1.26	1.33	1.38	2. 46	2, 93	2.47	1.94	1.58	1.51	1.83
1912	1.89	2.24	2.88	3.17	2.98	2. 67	2, 29	1.88	1.25	1.08	1.04	1.15
1913	1.26	1.17	1.03	1.15	1.58	2. 18	2, 64	2.15	1.79	1.69	1.58	1.75
1914	1. 87	2. 07	2.03	2. 24	2. 05	2. 61	2. 66	1.74	1. 50	1. 31	1. 14	1. 26
	1. 36	1. 41	1.38	1. 99	2. 53	2. 34	1. 95	1.61	1. 24	1. 00	. 97	1. 07
	1. 17	1. 21	1.38	1. 50	1. 93	2. 27	2. 15	2.26	2. 17	2. 40	2. 61	3. 04
	3. 95	5. 65	6.77	7. 61	7. 53	5. 10	3. 23	2.19	1. 76	1. 79	2. 66	2. 28
1918	2.74	3. 26	2. 86	2.98	3. 23	3. 55	3. 41	2.96	2. 45	2. 16	1. 99	2. 05
	2.19	2. 33	2. 71	3.79	4. 97	4. 68	4. 23	3.73	3. 08	2. 88	2. 74	3. 49
	4.31	5. 05	5. 25	5.59	6. 75	5. 47	4. 71	3.28	2. 03	1. 95	1. 67	1. 77
	1.91	1. 86	1. 71	2.03	3. 10	4. 04	3. 95	3.16	2. 61	2. 39	2. 42	2. 77
	3.05	3. 09	3. 02	3.10	3. 68	3. 36	2. 96	2.12	1. 72	1. 55	1. 46	1. 63
Av.1913-1922.	2.38	2. 71	2. 81	3. 20	3.74	3. 56	3. 19	2. 52	2.04	1.91	1. 92	2. 11

CABBAGE-Continued.

Table 318.—Cabbage, Danish: Monthly range and average jobbing prices, per 100 pounds, at 10 markets, for 1920-21 to 1922-23.

	Octob	eı.	Novem	ber	De- cem-	Janu-	Februs	ry.	Marc	h.
Market and year.	Range.	Aver- age	Range.	Aver- age.	ber, aver- age.	ary, aver- age	Range	A ver- age	Range.	Aver- age
New York: 1920-21 1921-22 1922-23	\$0.88-\$1 00 1.82-2.05 .90-1.25	\$0.99 1.98 1.01	\$0.75-\$1.13 1.78-2 40 .50-1 25	\$0 94 2.08 .79	\$0.76 2.49 1.18	\$1.00 2 60	\$0 68-\$0 83 1 75-2, 25	\$0. 73 2. 02	\$0.68-\$0 95 1.75-2.50	\$0. 81 2. 11
Chicago: 1920-21 1921-22 1922-23	1.75-2.25	2.02	. 43~ . 73 2. 00~3. 25 . 75~1 10	. 52 2. 47 . 83	. 70 2 59 1. 21	. 92 2. 21	. 47 83 1. 50-2 15	.71 1.83	.3078	.64
Philadelphia: 1920-21 1921-22 1922-23	.70-1.00 1.50-2.00 .75-1 10	. 81 1. 87 . 87	. 55-1. 18 1. 50-2. 38 . 35-1. 15	. 82 1. 91 . 71	.62 2.42 1.09	. 93 2. 39	. 55 80 1. 25-2. 25	. 69 1. 77	. 55 83 2. 00-2. 50	2. 22
Pittsburgh: 1920-21 1921-22 1922-23	. 88-1. 40 2. 15-2. 75 1. 50-2. 50	1. 12 2. 48 1. 91	.70-1.50 2.25-2 88 .40-1.50	1.00 2.57 .86	. 69 2. 67 1. 57	1. 04 2. 58	.7095 1.90-2.75	. 80 2. 21	.5578 1.75-2.75	. 66 2. 36
St Louis: 1920-21 1921-22 1922-23	1.69-2.75	2 15	1.81-2 50	2,30	.91 2.65 1.30	1. 12 2. 57	. 75-1. 25 1. 50-2. 25	. 99 2, 02	.63-1.25	.96
Cincinnati: 1920-21 1921-22 1922-23	1. 50-2. 62 . 90-1. 40	2. 14 1. 21	.55-1.33 1.50-2.50 .50-1.00	2. 10 2. 71	.72 2.73 1.31	1. 03 2. 59	. 95-1. 18 1. 75-2. 50	1.05 2.32	. 50-1. 13	. 82
St. Paul: 1921–22 Minneapolis: 1921–22						3. 34 3. 32	2. 50	2, 50		
Kansas City: 1920-21 1921-22 1922-23	1. 50-2. 50 . 60-1. 25	2, 09 . 90	1.75-3, 25 .5085	2.61 66	1. 05 3. 15 1. 22	1. 39 3. 26	.75-1.50 2.00-2.75	1.05 2.43	. 50–1. 00	.78
Washington ² 1920-21 1921-22 1922-23	1. 50-2. 25	1.97	2 00-3.00 1.00-2.00	2, 53 1, 43	3. 03 1. 82	1. 93 3. 41	1. 25-1. 50 2. 50-1. 00	1.47 3.01	1.00-1.50	1.25

¹ Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

² Sales direct to retailers.

Table 319.—Cabbage: Carlot shipments by States of origin, 1917 to 1922.

State.	1917	1918	1919	1920	1921	1922
New York, Long Island	118	111	(2)	36	(2)	(2)
New York, other	4,999	8,357	3 7,300	7,006	8 9, 543	3 9,368 339
rennsylvania	94	160	383	239	291	
Maryland	171	63	254	260	325	448
Virginia	1,891	1,927	1,508	1,532	3,595	2,955
South Carolina	663	1,867	1,172	1,087	3,285	3,286
Florida	1,413	3,782	1,537	4,745	1,518	3,022 583
Ohio	546 65	578	283	342	335	144
Illinois		267 430	161 385	146 335	102 472	846
Wisconsin	2,815	3,334	3,508	4, 179	3,355	5, 231
Minnesota	582	1,010	961	834	596	1, 143
Iowa	453	389	205	374	144	560
Kentucky	96	121	185	128	98	73
Tennessee	51	117	175	141	176	567
Alabama		860	421	265	940	1,363
Mississippi	281	1,128	566	884	577	1 625
Louisiana.	150	258	188	233	313	1,625 354
Texas	931	304		4,828	1,757	3,567
Colorado	2, 485	1,960	1,437 2,323	1,656	2,580	1,887
California	1.412	1,078	1,395	1,247	845	733
All other	527	560	635	523	871	8 2 5
Total	20, 354	28,661	24, 982	31,020	31,718	38, 922

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ONIONS.

Table 320.—Commercial acreage, yield per acre, and production of onions 1920-1922.

Otata		Acreage	•	Yiel	ld per ac	re.	P	roductio	n.
State.	1920	1921	1922	1920	1921	1922	1920	1921	1922
Early: California Louisiana Texas	A cres. 3,300 1,080 12,446	A cres 2,000 1,010 10,503	Acres 2,950 1,100 11,900	Bush. 298 158 256	Bush. 245 206 207	Bush 260 200 196	Cars 1, 967 341 6, 372	Cars. 980 416 4,348	Cars. 1,514 440 4,665
Total	16,826	13,513	15, 950	258	213	208	8,680	5,744	6,619
Intermediate: Iowa Kentucky New Jersey Texas Virgina Washington	1,577 900 2,610 750 950 1,395	1,235 1,000 2,380 1,000 1,120 1,284	1,600 1,000 2,360 1,500 1,315 1,530	350 370 240 250 320 410	205 300 250 275 280 300	380 225 250 250 225 225 320	1, 104 666 1, 253 375 608 1, 144	506 600 1,190 550 627 770	1,216 450 1,180 750 592 979
Total	8,182	8,019	9,305	315	264	278	5, 150	4, 243	5, 167
Late: California Colorado Idaho Illinois Indiana Massachutetts Michigan Minnesota New York Ohio Oregon Pennsylvama Utah Wisconsin Total	8, 350 755 275 1,004 5, 265 4, 850 1, 441 8, 572 5, 961 1, 882 350 120 1, 175	7,754 1,295 1,037 4,179 4,500 1,416 7,285 5,078 870 338 124 1,010	6, 525 1, 905 3, 905 5, 604 4, 560 1, 733 1, 511 8, 288 5, 685 844 352 140 1, 034	325 340 485 350 398 450 350 340 340 370 350 480 360	225 300 470 210 265 280 225 200 300 225 300 270 440 300	250 280 460 360 413 275 511 350 270 400 380 400 350	5, 428 513 267 703 4, 191 4, 365 1, 009 927 5, 829 4, 053 653 245 115 846	3, 489 7777 136 436 2, 215 2, 520 608 566 4, 371 2, 285 522 183 109 606	3, 262 1, 067 276 750 4, 629 2, 508 1, 771 1, 058 4, 476 4, 548 530 268 112 724
							<u> </u>		
Grand total	65, 553	57, 913	65, 026	328	249	291	42,974	28, 810	37, 765

Table 321.—Onions: Farm price, cents per bushel on 15th of each month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	94 4	100. 1	92. 5	103. 4	102. 8	105. 8	104. 5	99. 8	99. 4	93. 2	94.6	98 8
1911	101. 0	101. 0	105. 0	119. 0	129. 0	134. 0	122 0	116. 0	101. 0	102. 0	103.0	113.0
1912	117. 0	140. 0	167. 0	175. 0	177. 0	155 0	114. 0	100 0	89. 0	85. 0	84.0	84.0
1913	81 6	77. 5	77. 0	79. 0	87. 2	95. 6	101. 7	105. 1	103. 9	110. 2	114.9	114.9
1914	121. 0	140. 7	155. 2	159. 2	152. 6	140. 8	170. 4	137 9	103 3	88. 3	84. 4	92. 2
1915	88. 9	97. 6	95. 3	104. 4	102. 9	102. 9	93. 0	86.3	82, 8	94. 8	94. 8	99. 6
1916	113. 2	126 3	130. 3	123. 5	123. 3	133 8	147. 3	133 5	122, 9	131. 4	153. 8	175. 7
1917	208. 4	357. 9	476. 2	495. 6	398. 0	308. 0	201. 0	154.7	142, 9	157. 5	174. 6	177. 0
1918	178, 9	183. 2	147. 0	134 1	134. 7	138. 7	162. 6	164 7	163. 3	143, 2	143. 1	131. 7
	133, 5	154. 7	199. 8	202. 1	229. 9	234. 1	232. 0	225. 8	195 4	196, 4	212. 5	245. 8
	280, 8	307. 3	325. 6	344. 2	337. 6	264. 2	204. 8	176. 4	172 9	158, 9	143 8	132. 0
	135, 2	131. 2	114. 2	98. 4	106. 7	138. 2	147. 7	159. 1	168. 5	186, 6	219. 9	245. 2
	263, 8	325 3	365. 7	469. 6	331. 4	270. 9	204. 5	156. 9	126. 9	118, 8	123. 6	131. 7
Average, 1913-1922.	160. 5	190. 2	208.6	221.0	200. 4	182. 7	166. 5	150.0	138.3	138.6	146.7	157 7

ONIONS-Continued.

Table 322.—Onions: Monthly average jobbing prices per 100 pounds at 10 markets, 1920-21 to 1922-23.

· · •			Va	rious comi	non variet	ies.		
Market and year	Aug 2	Sept	Oct.	Nov	Dec.	Jan.	Feb.	Mar
New York 1920-21 1921-22 1922-23	\$2, 80 2, 08	\$2 24 3 43 1,52	\$1.56 5.06 1.72	\$1, 55 5, 63 2, 00	\$1. 23 5. 45 2. 99	\$1.31 7.34	\$0. 98 8. 25	\$0 80 8, 21
Chicago: 1920-21 1921-22 1922-23	2, 58 2, 12	1.94 3 61 1.61	1.59 4.47 1 70	1.56 5.11 2.22	1.31 5.62 2.29	1 16 7.09	. 98 7. 64	. 93 8. 53
Philadelphia 1920-21 1921-22 1922-23	ਤੇ 02 2, 19	2, 03 3, 80 1, 63	1 49 4.80 1 57	1, 51 5, 34 1, 82	1. 23 5. 52 2. 73	1.27 6.93	. 98 8. 09	. 87 8. 98
Pittsburgh: 1920-21 1921-22 1922-23	3, 05 2, 36	2, 30 3, 82 1, 56	1 74 4.86 1.52	1.65 5.44 1.63	1.05 5.57 2.71	1 26 6, 73	. 89 7. 89	. 90 8. 89
St. Lours: 1920-21 1921-22 1922-23	2, 95	1. 67 3. 70	1.55 4.88 1.89	1, 55 5, 15 2, 20	1, 06 5, 68 2, 30	1.17 6.97	. 91 7. 90	. 70 8. 52
Cincinnati 1920-21 1921-22 1922-23	2, 92	1. 76 3. 74	1. 48 5. 19 1. 78	1, 45 5, 59 1, 96	-1. 30 5. 45 2. 87	1, 25 6, 90	1.13 8.29	. 85 8. 63
St. Paul: 1920-21 1921-22 1922-23	2, 85	1, 99 3, 19	4, 92	1, 83	4.44	6.42	7.75	8, 61
Minneap olis: 1920–21 1921–22 1922–23	2 70	2 12 3, 34	4. 76	4.81	4.60	6.62	8.11	8, 83
Kansas City: 1920-21 1921-22 1922-23	2, 97	1.98 3.60	1.68 4.38 2.12	1.67 5.40 2.02	1. 52 5. 42 2. 56	1.35 6.91	1. 13 8. 06	. 66 8. 50
Washington: 1920-21 1921-22 1922-23	3, 64 2, 64	2. 61 4. 27 2. 07	1. 95 4. 93 1. 75	1, 92 5, 93 2, 72	1. 86 5 78 2. 77	1.88 7.10	1. 53 8 61	1. 35 9. 55

Average prices as shown are based on stock of good merchantable quality and condition only; they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.
 2 Quotations began Aug. 22, 1921.
 3 Sales direct to retailers.

ONIONS-Continued.

Table 322.—Onions: Monthly average jobbing prices per 100 pounds at 10 markets, 1920-21 to 1922-231—Continued.

			Bern	udas.		
Market and year.	A	pr.	M	ay.	Ju	ne.2
Market and Joseph	Yellow.	Crystal White Wax.	Yellow.	Crystal White Wax.	Yellow	Crystal White Wax
New York: 1920-21 1921-22 Chicago:	\$4. 34 7. 66	\$3.46 6.20	\$3. 15 4. 14	\$3. 79 3. 79	\$2, 93 3, 91	\$3 01 3.54
1920-21. 1921-22. Philadelphia.	3. 48 6. 21	4. 37 6. 47	2. 79 4. 05	3. 73 4. 20	2, 53 3 43	3 27 3 89
1920–21 1921–22 Pittsburgh:	4. 04 7. 03	3. 88 6. 00	3. 26 4. 13	3.70 4.04	2.75 4.07	2.61
1920-21 1921-22 St. Louis	4. 03 6 81	4. 58 7. 17	3. 22 4. 52	3. 91 5. 29	2, 95 3, 54	3 35 3.88
1920–21 1921–22 Cincinnala:	3 30 5.95	4. 40 5. 67	2. 83 3. 17	3. 47 4. 19	3. 37	3 20
1920-21 1921-22 St. Paul:	3, 43 5, 93	4. 49 6. 44	3. 17 4. 67	3.95	2.72 3.40	3 73 3.76
1920-21 1921-22 Minneapols:	3. 55		3. 23 4 39	4. 05 4. 52	2, 50 3, 12	3. 82 3 35
1920-21 1921-22	4.02	4.66	3, 38 4, 62	4.11 4.86	2, 49 3, 17	4.05 3.55
Kansas City: 1920-21 1921-22	3.60 6.56	4. 27 6. 92	2,78 3,91	3.46 4.46	2, 39 2, 76	3.41 3.29
Washington. 8 1920–21	5.67 8.00	7 36	4, 21	5. 17	3. 45 4. 36	4.36

¹ Average prices as shown are based on stock of good merchantable quality and condition only: they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain comparability.

² Last quotation June 14, 1922.

³ Sales direct to retailers.

TABLE 323 -Onions: Carlot shipments by States of origin 1917-18 to 1991-99 1

State.	1917–18	1918-19	1919-20	1920-21	1921-22
Massachusetts. New York. New Jersey. Vırginia Ohio	2,104 567 158	2,883 2,784 597 95 2,008	2,835 2,702 634 133 1,913	3,834 3,089 635 181 3,212	2,224 2,946 427 140 1,736
Indiana Illinois. Michigan Wisconsin Minnesota	230 253 240	1,817 334 590 309 822	1,005 123 224 95 439	3,448 360 795 406 276	1,840 254 418 90 173
Iowa Kentucky Louisiana Texas Colorado.	177 174 ² 5,896	968 195 450 3 3,575 230	488 339 101 42,876 207	870 303 106 5 5,086 134	412 361 79 64,208 443
Washington Oregon California, northern district. California, southern district. All other	196 519 7 2,979	477 238 3,627 8 400 150	596 202 4,887 9 522 228	790 19 3,169 10 1,233 277	650 343 2,662 11 928 434
Total	21,041	22,549	20,549	28,223	20,768

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.
2 Approximately 5,816 cars Bermudas, remaining 80 cars various common varieties.
3 Approximately 2,836 cars Bermudas, remaining 69 cars various common varieties.
4 Approximately 2,836 cars Bermudas, remaining 40 cars various common varieties.
5 Approximately 4,935 cars Bermudas, remaining 101 cars various common varieties.
6 Approximately 4,036 cars Bermudas, remaining 172 cars various common varieties.
7 Approximately 519 cars Bermudas, remaining 2,460 cars various common varieties.

TOMATOES.

Table 324.—Commercial acreage, yield per acre and production of tomatoes for canning and table stock, 1920–1923.

	Acreag	ge (00 om	itted).	Yıc	eld per a	ere,	Product	100 (000 c	mitted.)
	1920	1921	1922	1920	1921	1922	1920	1921	1922
Alabama Arkansas California Colorado Connecticut	A cres. 9 58 391 34 10	Acres. 8 25 136 16 10	Acres. 9 39 311 24 10	Tons. 2. 2 3. 3 6. 0 7. 0 6. 0	Tons. 3 4 3.3 5.5 7 0 3.0	Tons. 3 6 3.5 7.5 8 5 4.0	Tons. 2 19 235 24 6	Tons. 3 8 75 11	Tons. 3 14 233 20 4
Delaware Florida Georgia Idaho Illinois	197 227 4 2 91	28 180 4 3 70	182 327 4 2 86	4 5 3.1 2.5 4 0 4.9	4.5 4.3 3.5 7.0 3.5	3. 0 3. 8 3. 5 5. 0 4. 8	89 70 1 1 45	13 77 1 2 24	55 124 1 1 41
Indiana Iowa Kansas Kentucky Louisiana	449 26 12 70 3	260 26 12 65 3	589 32 11 60 3	4 5 5 0 4.5 4.2 2.6	5.0 3.5 3.5 3.5 3.0	5. 5 5. 0 4. 5 4. 0 1. 9	202 13 5 29 1	130 9 4 23 1	324 16 5 24 1
Maryland. Massachusetts. Michigan Minnesota Mississippi	497 17 42 6 64	174 17 34 5 72	477 20 37 6 105	3. 5 4. 0 5. 5 3. 5 2. 6	3.5 4.5 5.6 3.0 3.3	3 5 4. 5 5. 0 3. 4 3. 9	174 7 23 2 17	61 8 19 2 24	167 9 18 2 41
Missouri. Nebraska. New Jersey New Mexico New York.	185 4 363 1 163	83 3 315 1 93	151 5 328 2 147	3.5 4.0 5.0 3.0 8.5	3.0 4.0 5.0 4.0 8.0	3. 5 5. 0 5. 2 5. 0 8. 0	65 2 182 139	25 1 158 74	53 2 171 1 1
North CarolinaOhioOklahomaOklegonPennsylvania	137 9 5 61	4 119 5 5 5	4 180 3 16 61	6. 0 6. 0 3. 8 6. 0 5. 0	1.9 5.4 3.3 7.0 5.0	2.5 5.9 2.3 6.0 6.0	2 82 3 3 30	1 64 2 4 26	106 1 10 37
South Carolina. Tennessee. Texas Utah.	103 69 39	6 65 90 12	10 94 78 39	2. 5 3 4 2. 5 9. 6	3. 1 2. 7 2. 5 10. 0	3. 2 3. 9 2. 0 10. 5	1 35 17 37	18 22 12	3 37 16 41
Virginia Washington West Virginia Wisconsin Total	190 6 20 13 3,585	47 7 11 10 2,077	110 7 13 11 3,593	3. 5 7. 0 3. 8 3. 8	3 0 8.0 3.0 3.2 4.5	2.7 6.0 3.0 4.0	66 4 8 5 -1,646	14 6 3 3 3	30 4 4 4 1,742
A UUCA			17,11913	4.0	3.0	4.0	1,040	800	1,174

Table 325.—Tomatoes: Monthly average jobbing prices per 4-basket and 6-basket carriers at 10 markets, 1921 and 1922.

Market and year	4-basket June.	carrier. July.	6-busket carrier, June.	rier, Market and year me.		4-basket carrier. June. July		
New York: 1921. 1922. Chicago: 1921. 1922. Philadelphia: 1921. 1922. Pittsburgh: 1921. 1922. St. Louis: 1922.	\$1. 70 1. 14 1. 59 1. 18 1. 41 1. 06 1. 58 1. 16	\$1. 20 1. 05 1. 22	\$2.96 2.03 2.98 2.58 1.77 3.19	Cincinnati: 1921. 1922. 1922. St. Paul' 1921. 1922. Minneapolis: 1921. 1922. Kansas City: 1921 1922 Washington: 2 1921. 1922	1.23 1.30 1.68	.67	\$2.63 2.01 2.80 3.03 3.21	

TOMATOES-Continued.

Table 326.—Tomatoes: Carlot shipments by States of origin, 1917 to 1922.1

State.	1917	1918	1919	1920	1921	1922
New York. New Jersey Delaware Maryland Florida.		381 2,006 1,130 200 3,700	457 1,012 502 206 4,501	845 2,356 153 138 3,749	1,098 2,130 189 128 5,774	1,905 1,918 413 281 10,201
Ohio Indiana Illinois Tennessee.	628 524 487 947	799 1,150 393 654	489 948 234 368	330 1,148 340 805	351 528 155 357	546 1, 288 229 918
Mıssissippi Texas California All other	1,063 1,278 519 478	1,379 1,123 1,514 1,042	1,388 1,205 2,186 1,007	1,363 1,286 1,958 1,085	1,961 1,954 1,714 860	3,433 1,848 2,228 1,180
Total	14,115	15, 471	14, 503	15,556	17, 199	26, 388

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.

Table 327.—Tomatoes: Farm price, cents per bushel, 15th of month, 1912-1922.

Date	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
July August September. October	127. 0 75. 6 58. 7 62. 3	161.4 95.8 68.0 73 0	167. 4 92. 5 63. 0 60. 3	141. 4 66. 4 56. 9 67. 9	161. 5 88. 4 75. 6 82. 1	194. 3 124. 3 109. 5 117. 6	219. 1 133. 1 103. 0 108. 6	240.3 177.0 137.2 117.7	324 4 168. 4 104. 4 98 9	319.6 142.4 103.6 113.5	270. 0 102. 0 79. 6

Table 328.—Tomatoes, canned: Production in the United States, 1891-1922. [Expressed in cases of 24 No. 3 cans.]

State	1891	1892	1893	1894	1895	1896
Massachusetts	10, 000 14, 400 114, 774 950, 833 15, 000	6, 557 14, 750 146, 290 862, 692 18, 920	3, 400 9, 500 160, 887 977, 242 24, 364	9, 800 19, 325 161, 378 1,378, 090 21, 099	5,000 18,000 150,617 756,041 10,825	10, 200 96, 308 686, 490 7, 450
Delaware. Maryland Virgnna ² North Carolina South Carolina	741,010 98,360 3,900	175, 700 977, 742 60, 386 1, 500 7, 500	271, 277 1, 417, 626 45, 020 7, 350 2, 950	399, 125 2, 159, 876 67, 125 8, 879 4, 800	280, 934 1, 317, 606 87, 830 22, 210 20, 500	362, 319 1, 031, 500 49, 830
Georgia Ohio Indiana Illinois Michigan	3,000 90,950 311,217 68,324 73,506	12, 400 87, 840 282, 717 42, 200 39, 602	4,700 61,720 347,260 64,400 30,502	3,500 249,391 912,856 159,360 59,100	3, 166 178, 247 435, 557 101, 539 59, 238	150, 140 447, 283 82, 965 20, 650
Wisconsin Iowa Missouri Nebraska Kansas	94, 800 90, 350 26, 900	57, 500 64, 621 2, 210 30, 833	3, 250 82, 719 122, 493 16, 900 76, 815	86, 373 186, 210 32, 950 85, 050	2, 900 91, 641 155, 900 13, 710 33, 700	9, 736 61, 437 110, 729 8, 070 32, 650
Kentucky. Alabama. Mississippi Texas. Oklahoma.		2, 200 1, 170 100	6,500 2,200 2,300 7,521 2,500	30, 893 4, 350 5, 500 7, 816 2, 500	13,700 2,850 9,600	10,800
Arkansas. Colorado Utah. Califorma All other	12, 600 218, 311	2, 500 39, 262 55, 000 230, 943	14,000 49,500 29,000 451,547	20, 300 79, 110 46, 000 222, 913	9, 100 21, 000 233, 259	4,000 55,500 183,317 2,5

TOMATOES-Continued.

Table 328.—Tomatocs, canned: Production in the United States, 1891-19221—Con

State	1897	1898	1899	1900	1901	1902
Connecticut	93, 610 519, 813 16, 900 305, 769	9, 720 162, 354 810, 219 42, 216 450, 409	20, 120 158, 206 871, 349 76, 010 545, 551	16, 125 201, 371 815, 102 48, 540 381, 124	15,000 140,043 411,150 3,791 212,723	13,000 107, 123 739, 845 81,601 750,670
Maryland Virginia ² Ohio Indiana Illinois	1, 381, 989 119, 517 152, 800 587, 579 65, 000	1,918,872 135,293 210,755 1,020,415 75,561	2, 859, 914 298, 270 248, 519 827, 413 144, 115	1,691,045 177,835 233,697 629,536 102,481	1,768,269 104,813 103,847 420,082 25,600	4, 514, 382 414, 599 314, 660 992, 686 52, 530
Michigan	21, 384 2, 750 119, 505 180, 874	41, 585 31, 258 134, 250 146, 844	53, 316 53, 580 85, 884 168, 211	40, 150 58, 300 95, 500 133, 000	34, 475 33, 312 18, 180 13, 400	17,667 6,000 51,657 98,682
Nebraska Kansas Kentucky Arkansas	9, 800 33, 988 23, 600 9, 700	21,600 16,805 27,600	16, 174 25, 075 32, 220	$\begin{array}{c} 13,550 \\ 20,010 \\ 26,125 \end{array}$	1,400 2,500 16,500	3, 352 20, 000 62, 249
Colorado	67, 125 34, 300 208, 612 9, 360	45, 142 18, 000 299, 408 35, 903	38, 550 125, 000 508, 310 18, 206	30, 500 205, 351 555, 536 22, 865	47, 900 150, 000 696, 288 14, 788	5,000 248,650 737,400 29,669
United States	3, 963, 975	5,654,209	7, 173, 993	5, 498, 043	4, 234, 061	9, 261, 722
State	1903	1904	1905	1906	1907	1908
Connecticut. New York. New Jersey. Pennsylvania. Lelaware.	6,000 185,581 592,670 67,922 899,964	169, 521 815, 823 90, 638 646, 110	187, 171 416, 053 36, 366 404, 155	274, 798 545, 628 84, 169 728, 365	217, 695 911, 814 106, 888 1, 368, 866	369,000 651,000 (³) 940,000
Mai ylandVirginia ² Ohio Indiana	4, 687, 224 941, 614 268, 336 989, 081	3,338,310 486,260 278,438 1,166,664	2, 294, 408 161, 994 184, 353 799, 404	3, 209, 953 102, 537 276, 243 1, 469, 167	5, 294, 253 1, 070, 409 410, 876 1, 172, 095	4,716,000 607,000 406,000 1,126,000
Illinois Michigan Wisconsin Iowa	42,519 13,310 19,912 27,978	34,700 15,415 83,145	52, 147 7, 825 64, 625	67, 860 17, 160 155, 770	51,239 50,000 60,121	(3) (3) (3)
Missouri Nebraska Kansas Kentucky	38, 033 3, 611 15, 123 61, 299	115, 950 6, 907 3, 400 12, 500	83, 743 9, 542 21, 399 80, 900	255, 419 4, 438 23, 938 76, 783	225, 325 5, 600 22, 628 76, 905	546, 000 (³) (³) (³)
Golorado Utah California All other	359, 336 884, 243 21, 156	73,000 373,068 730,311 46,966	49, 176 51, 975 649, 685 20, 395	100, 075 332, 267 838, 792 67, 776	60, 107 424, 806 1, 227, 364 158, 185	(3) (3) (3) 2,118,000
United States	10, 154, 912	8, 517, 126	5, 575, 316	8,631,138	12,918,206	11,479,000
State.	1909	1910	1911	1912	1913	1914
New York New Jersey Delaware Maryland Virginia ²	298,000 944,000 1,236,000 4,609,000 985,000	118,000 519,000 992,000 3,675,000 630,000	193,000 570,000 931,000 3,908,000 681,000	490,000 799,000 1,398,000 6,350,000 882,000	487,000 883,000 1,646,000 6,280,000 945,000	601,000 728,000 1,335,000 5,850,000 867,000
Ohio Indiana Missouri All other	339,000 852,000 244,000 1,477,000	209,000 537,000 350,000 2,205,000	293,000 806,000 120,000 2,247,000	283,000 792,000 435,000 2,593,000	326,000 948,000 128,000 2,563,000	523,000 1,295,000 376,000 3,647,000
United States		9,235,000	9,749,000			15, 222, 000

TOMATOES—Continued.

Table 328.—Tomatoes, canned: Production in the United States, 1891-1922.1—Con.

State.	1915	1916	1917	1918	1919	1920	1921	1922
New York	256,000	174,000	552, 830	395, 904	436,599	515,000	214,000	340,000
New Jersey	325,000	712,000	380, 116	667, 063	59,678	517,000	116,000	337,000
Delaware	711,000	1,199,000	1,380, 805	879, 070	188,920	553,000	176,000	590,000
Maryland	3,084,000	6,042,000	5,933, 239	6, 649, 475	2,528,927	3,347,000	1,656,000	3,205,000
Virginia ²	969,000	928,000	1,170,504	1,547,291	852, 991	1,162,000	217,000	891.000
Ohio	157,000	186,000	107,491	357,283	172, 367	142,000	71,000	179,000
Indiana	419,000	760,000	398,327	968,219	875, 598	778,000	530,000	1,312,000
Missouri	252,000	211,000	704,347	352,821	438, 720	715,000	136,000	775,000
Utah	329,000	373,000	512,546	952, 539	594,066	444,000	132,000	664,000
California	1,281,000	1,635,000	2,603,019	1, 789, 904	3,051,688	1,773,000	339,000	1,701,000
All other	686,000	922,000	1,332,850	1, 322, 803	1,510,106	1,422,000	430,000	1,544,000
United States.	8,469,000	13, 142, 000	15,076,074	15, 882, 372	10,709,660	11,368 000	4,017,000	11,538,000

¹ Compiled from National Canners Association.

THENTPS.

Table 329.—Turnips: Farm price, cents per bushel, 15th of month, 1913-1922.

Date.	1913–14	1914–15	1915–16	1916–17	1917–18	1918-19	1919–20	1920-21	1921–22	1922-23
November	55.1 56.8	47. 4 48. 4 49. 2 51. 1	45. 9 45. 1 48. 6 49. 6	68.4 73.3 78.6 91.1	76. 4 81. 1 88. 4 89. 9	79.6 79.0 82.1 84.7	98. 9 101. 8 112. 4 124. 1	94.1 85.9 88.7 88.7	88. 5 86. 5 87. 5 90. 3	83. 1 81. 9 91. 9 91. 3

CELERY.

Table 330.—Celery: Carlot shipments by States of origin, 1917 to 1922.1

State	1917	1918	1919	1920	1921	1922
New York New Jersey Pennsylvania Florida Michigan Colorado California	2,222	1,614 155 199 2,461 461 225 2 262	1,523 177 33 2,051 598 212 1,796	2,675 105 176 3,010 604 283 2,384	3,110 216 225 4,172 1,013 211 3,405	3,286 119 212 4,808 1,465 221 3,453
All other	45	2,262 35	59	2,0071	131	3,453 212
Total	6,577	7,412	6,449	9,308	12,483	13,776

¹ Shipments as shown in earlots include those by boat reduced to earlot basis.

LETTUCE.

Table 331.—Lettuce: Carlot shipments by States of origin, 1917 to 1922.1

		Ü	U	,		
State.	1917	1918	1919	1920	1921	1922
New York New Jersey North Carolina South Carolina Florda	191	1,334 171 226 375 2,352	1,761 245 319 395 2,134	2,138 515 265 356 3,120	3,361 478 448 583 2,286	3,173 570 619 859 3,115
Texas. Arizona Washington California. All other	64	2,051 369	90 41 19 2,731 283	176 165 345 6,350 391	114 166 632 9,746 802	114 649 811 9,713 2,212

² Includes West Virginia.

STRAWBERRIES.

Table 332.—Strawberries: Monthly average jobbing prices per quart at 10 markets, 1921 and 1922.

Market and year.	Mar.2	Apr.	May.	June.3	Market and year.	Mar 2	Apr	May.	June.3
New York: 1921	\$0.47 .60 .31 .45 .33 .53 .53	\$0.41 .37 .37 .29 .34 .32 .34 .34 .33	\$0. 27 . 21 . 24 . 14 . 23 . 18 . 26 . 17 . 23 . 14	\$0.16 	Cincinnati: 1921. 1922. St. Paul: 1921. 1922. Minneapolis: 1921. 1922. Kansas City: 1921. 1922. Washington: 4 1921. 1922.	\$0.33 .53 .38 .37 .33	\$0. 27 .18 .44 .30 .41 .29 .36 .31 .35 .27	\$0. 23 . 12 . 28 . 19 . 31 . 18 . 23 . 16 . 22 . 20	\$0.16 .14

¹ Average prices as shown are based on stock of good merchantable quality and condition only, they are simple averages of selling prices. In some cases conversions have been made from larger to smaller units or vice versa, in order to obtain camparability.

² Quotations began Mar 23, 1922.

³ Last quotation June 6, 1922.

⁴ Sales direct to retailers.

Table 333.—Strawberries: Carlot shipments by States of origin, 1917 to 1922.

State.	1917	1918	1919	1920	1921	1922
New York New Jersey Delaware Maryland Virginia.	2,340 2,193	242 445 822 838 342	112 326 430 611 208	362 559 640 787 349	244 425 856 1,069 697	330 274 940 1,629 1,670
North Carolina. Florida flunois. Michigan	193 347	585 79 125 272	484 21 80 391	446 153 98 439	479 108 74 455	1, 101 325 260 650
Missouri Kentucky. Tennessee Alabama.	676	620 410 1,234 279	1,081 132 1,099 229	318 239 1,182 147	466 387 1,693 285	2,043 756 3,592 459
Louisiana Arkansas California All other	1,096	556 651 509 443	682 1,034 703 482	858 896 569 448	1,531 1,094 291 541	1,540 2,190 199 789
Total	15,065	8,452	8,105	8,490	10,695	18,747

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.

WATERMELONS.

Table 334.—Watermelons: Carlot shipments by States of origin, 1917 to 1922.1

State.	1917	1918	1919	1920	1921	1922
Delaware. Maryland. Virginia. North Carolina. South Carolina.	1,019 728 1,201	303 388 244 727 2,787	327 515 263 891 2,673	177 458 312 799 4,735	499 763 364 1,530 4,427	289 379 156 988 4,668
Georgia	3,622	6,782	8,984	11,103	16,140	13, 143
Florida		2,179	3,878	6,807	5,772	11, 008
Indiana		191	581	661	742	540
Ilinois		68	190	251	459	289
Iowa	238	132	321	348	867	663
Missouri	2,533	1, 196	3,516	3,012	3,188	2, 761
Alabama	1,634	806	708	1,160	1,486	1, 937
Texas	2,871	2, 290	3,007	4,845	4,298	4, 133
Oklahoma	505	189	870	465	566	307
Arkansas	449	93	268	314	577	320
California	1,137	1,689	3,300	3,276	3,796	4,312
All other	402	328	568	532	989	1,031
Total	31,503	20,392	30, 860	39, 255	46,463	46, 921

¹Shipments as shown in earlots include those by boat reduced to earlot basis.

CANTALOUPES.

Table 335.—Cantaloupes: Carlot shipments by States of origin, 1917 to 1922.

State.	1917	1918	1919	1920	1921	1922
Delaware. Maryland North Carolina. South Carolina. Georgia Indiana. Michigan Arkansas. Colorado. Now Mexico	855 1,106 157 789 664	429 490 418 31 551 443 37 699 1,818 256	590 835 523 100 314 462 204 1,106 3,132 378	581 771 359 110 389 635 209 936 2,454 937	943 1, 206 821 299 640 644 176 1, 501 3, 215 421	843 1, 233 700 273 1, 621 906 674 990 4, 580
Arizona Washington California All other Total	1, 215 145 8, 258 575 17, 430	1,169 110 6,848 320 13,619	1,832 100 12,010 453 22,039	1,164 329 13,100 403 22,377	1, 474 209 13, 177 843 25, 569	1, 558 378 15, 627 956 30, 614

 $^{^{\}mbox{\tiny 1}}$ Shipments as shown in carlots include those by boat reduced to carlot basis.

GRAPES.

Table 336.—Grapes: Carlot shipments by States of origin, 1917 to 1922.1

State.	1917	1918	1919	1920	1921	1922
New York. Pennsylvania Ohio. Michigan. Iowa	3, 621	2,017	3,751	6, 079	2,451	7,697
	801	367	881	1, 245	390	1,559
	196	50	87	50	68	78
	3, 298	1,635	3,783	4, 607	1,237	6,083
	85	68	108	106	68	210
Missouri	28	21	36	26	4	127
Washington	31	59	37	8	67	48
California	13,251	16,639	21,605	26, 974	32,879	43, 987
All other	68	59	61	110	38	177
Total.	21,379	20, 915	30, 349	39, 205	37, 202	59, 966

FRUITS AND VEGETABLES.

Table 337.—Fruits and regetables: Monthly and yearly carlot shipments of 15 commodities in the United States, 1917 to 1922¹

Man or the transport of the control										, .			
Crop and year.	Jan	Feb.	Mar.	Apı.	May	June.	July	Aug	Sept.	Oct.	Nov.	Dec	Total.
Apples. 1917. 1918. 1919. 1920. 1921.	2,380 2,362 4,044 4,393 6,046	$\begin{bmatrix} 3,232 \\ 3,679 \\ 4,419 \end{bmatrix}$	$\begin{bmatrix} 2,063 \\ 4.378 \end{bmatrix}$	$\frac{1,006}{2,229}$	965 347 430 1, 276 1, 496	229 189 262	1,149 1,349 1,855	1,308 2,359 2,712 3,861 3,384	5,719 8,070 12,259 11,043 13,146	21, 895 26, 680 32, 666 37, 284 35, 117	14, 165 13, 563 15, 854 23, 087 14, 464	3, 993 6, 320 5, 301 8, 875 5, 991	57, 048 68, 840 81, 552 102, 962 96, 498
5-year average 1922.	3,845 4,189	4,036 4,683	3, 439 2, 931	1,788 1,755	903 1,140	281 1,109	1,266 2,560	2,725 4,899	10, 047 14, 787	30, 728 32, 052	16, 227 19, 512	6,096 8,229	81,380 97,849
Beans (dry): 1918	22 699 661 1, 239	406 421	77 602 442 967	122 715 441 690	812	466	331	305	271	1,019 845	1,040	902 758 864 874	7, 791 6, 995
4-year average 1922	655 1,167	525 1,129	522 896	492 490	646 479	430 398	337 233	466 164	524 803	1,320 1,988	1, 144 2, 125	850 1,353	7, 911 11, 225
Cabbage- 1917. 1918. 1919. 1920. 1921.	1, 286 1, 498 2, 182 1, 931 2, 852	463 1,735 2,017 2,518 2,293	503 1,790 1,977 3,328 2,929	457 3,379 1,831 3,935 4,100	1 4. J4L	2, 121 1, 594 1, 438 1, 508 1, 727	753 645 557 612 459	1,305 1,152 1,095	3 261	6,078 5,051 5,137 5,399 5,467	3, 258 2, 411 4, 607	1,555	28,661 24,982 31,020
5-year average 1922	1,950 3,248	1,805 3,036	2, 105 4, 157	2,740 3,903	2,793 3,981	1,678 2,281	605 661	1, 192 1, 433	2, 568 3, 493	5, 426 6, 824	3,075 3,529	1,409 2,373	27, 347 38, 922
Cantaloupes: 1917 1918 1919 1920 1921					51 66 475 638	6, 781		5, 564 3, 922 4, 755 6, 867 5, 986	1 2 7X4	306 10 338 152 171		3	17, 430 13, 619 22, 039 22, 377 25, 569
5-year average 1922				4	² 308 128	5, 895 10, 375	6, 186 10, 295	5, 419 5, 737					20, 207 30, 614
Celery: 1919 1920 1921 1922 Grapes:	616 816 1,675 1,441	546 1,047 1,746 1,391	722 1, 206 1, 754 1, 760	412 708 866 1,135	320	32 21 105 94	44 69 137 201	141 150 262 365	258 421 516 830	1,256 1,815	1,210 1,811 1,443 1,928	1,086 1,483 1,909 2,147	
1920 1921 1922 7. ettuce:	i 2		•••••			12 12 12	460 366 425 321	2,837 4,647 3,376 4,738	13, 023 12, 001 16, 743 22, 392	11,592 19,358 14,671 25,864	2,423 2,808 1,968 6,439	10 13 6 2 06	39, 205 37, 202
1919 1920 1921 1922	767 2,025 2,356 2,233	717 1,622 1,984 1,797	829 1, 353 2, 219 2, 607	1,090 1,063 1,974 3,052	1,067	181 365 670 799	395 980 1,399 1,545	695 934 1,140 1,784	653 832 1,302 1,299	596 1, 253	1,481	1,771	8, 018 13, 821 18, 616 21, 835
Onions: 1917. 1918. 1919. 1920. 1921.	986 901 1,488 1,368 2,038	355 1, 062 1, 213 1, 159 1, 769	232 1, 023 949 999 1, 724	1,799	2, 960 2, 290 2, 462 4, 242 2, 559	1, 156 1, 141 646 607 822	1,177 1,844 1,030	T'ATO	2,740 3,075 3,522 3,675 3,362	4,068 4,211 2,963 4,910 2,608	1,348 2,410 1,702 2,918 1,248	516 1,017 987 1,186 1,148	22, 027 20, 874 25, 950
5-year average 1922	1,356 1,769	1, 112 1, 022	985 710	2,023 3,083	2,903 2,290	-	1,242 1,568				1,925 2,086		
Peaches: 1917. 1918. 1919. 1920. 1921.					41 1,119 328 45 1,429	3,513 1,588	5,149 6,336 9,216 6,881 9,387	5,748 5,185 11,277 6,284 7, 324	11,031 3,625 6,485 10,528 5,116	3,968 123 104 1,638 32	3		27, 237 20, 409 30, 923 26, 967 27, 300
5-yearaverage 1922					592 686	2,886 3, 140	7,394 7,547						26, 567 38, 247

¹ Shipments as shown in carlots include those by boat reduced to carlot basis.

2 FOUL-PART SYSTEM

FRUITS AND VEGETABLES-Continued.

Table 337.—Fruits and vegetables: Monthly and yearly carlot shipments of 15 commodities in the United States, 1917 to 1922 1—Continued

Crop and year.	Jan.	Feb.	Mar	Apr.	May.	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Pears: 1919 1920 1921 1922	11 49 11	1 29 4	8 20 1			23 1 1	1.511	3,079 5,582	2,753 4,850 3,972 6,676	3,634 $1,290$	190 779 285 592	40 157 82 105	14,950
Potatoes (sweet): 1919 1920 1921 1922	1,123 1,368 2,035 1,713	1,624	1,505	817 792	12 460 434 603	44 76		686 1,951	2,800 2,933	3,405	2.658	1,882 2,028	13,725 16,254 19,071 20,584
Potatoes (white). 1917. 1918. 1919. 1920. 1921.	112.883	8,725	12.772	8,445	6.960	14.777	115.022	113.592	118, 155	31.522	25, 075	1 9.755	144, 656 169, 264 181, 277 178, 283 219, 426
5-year average 1922	11,912 16,663	9,811 13,561	12,262 22,230	11,353 20,066	10, 859 20, 277	15,487 21,920	15, 232 18, 878	13,610 18,224	20,117 24,335	31,150 34,864	17,629 19,932	9.159 11,591	178, 581 242, 541
Strawberries. 1917	10	11 40	97 355 49 44 675	1,122 911 887	5,321 4 598 3,511	1,417 2,265 3,473	640 177 147 403 29	31 101 112	18 34 58 13	····- <u>2</u>	i		15,065 S,452 8,105 8,490 10,695
5-year average 1922	17	105	244 246	1,286 2,369	5,190 12,994	3,071 2,930	279 79		³ 31 6				10, 161 18, 747
Tematoes: 1917. 1918. 1919. 1920. 1921.	115 39 268 33	13 109 472	22 487 874 1,340 938	1,027 468	1,568 1,924 763	3,028 3,070 3,180	1,967 1,471 2,199	850 1,594	3,171 2,798 3,539	1,361	281 403	23 39 26	15,471 14,503 15,556
5-year avernge 1922	² 114 64		73½ 2,615	1,089 2,792	1,994 3,903	3,302 5,989	1,972 1,938	1,507 2,654	2,845 4,290	1,334 1,256		31 65	
Watermelons 1919 1920 1921 1922				7 8	299 18 1,086 3,103	6,417	15,011 20,199 19,837 17,887	10, 299 12, 256	2,174 $1,958$	79	2 18		30,860 39,255 46,463 46,924

 $^{^{\}rm 1}$ Shipments as shown in earlots include those by boat reduced to carlot basis, $^{\rm 2}$ 4-year average,

FRUITS AND VEGETABLES-Continued.

Table 338 .- Fruits and vegetables: Yearly unloads of nine commodities at 10 markets in carlots, 1917 to 1922.1

Crop and year	New York	Chi-	Phila- del-	Pitts- burgh	St. Louis.	Cin-	St. Paul.	Min- neap-	Kan- sas	Wash-	Total.
	Tork	l cugo.	phia.	- Carga		nati.	- 44421	olis.	City.	ton.	
Apples: 1917. 1918. 1919. 1920. 1921.	² 7,996	4,335	2,343	2,498	2,117	636	284	586	988	333	² 22, 116
	11,336	4,536	2,701	2,951	1,540	1,130	410	568	709	633	26 514
	10,601	6,069	2,864	2,216	1,379	1,450	227	348	674	387	26, 215
	11,058	7,102	3,217	2,792	1,975	1,617	401	464	1,006	590	30, 222
	³ 11,984	6,634	3,416	2,808	1,856	1,810	351	422	1,002	369	3 30, 652
5-year av	4 10,595	5,735	2,908	2,653	1,773	1,329	335	478	876	462	4 27, 144
1922	5 12,764	6,575	2,539	3,020	2,111	1,257	496	712	775	414	5 30, 663
Cabbage: 1917 1918 1919 1920 1921	2 2,027	1,141	1,325	896	1,001	425	46	81	375	186	² 7, 503
	2,880	1,322	1,936	1,670	858	577	54	57	580	371	10, 305
	2,301	1,837	1,662	1,172	746	557	53	49	421	287	9, 085
	2,306	1,355	1,906	1,297	864	596	74	121	399	393	9, 311
	6 3,030	1,780	1,962	1,105	1,049	669	68	75	400	386	6 10, 524
5-year av	4 2,509	1,487	1,758	1,228	904	565	59	77	435	325	4 9,346
1922	7 3,333	1,697	2,166	1,219	1,121	781	102	104	515	416	7 11,454
Cantaloupes 1917 1918 1919 1920 1921	3,365	793	815	1,140	285	418	85	142	360	99	7,502
	3,029	1,059	493	1,068	286	389	38	118	128	126	6,734
	3,867	1,936	1,049	1,702	305	597	92	171	448	230	10,397
	4,213	2,061	1,091	1,275	452	554	60	94	396	266	10,462
	8 4,781	2,308	1,258	1,322	539	640	115	166	452	242	8 11,823
5-year av	3,851	1,631	941	1.301	373	520	78	138	357	193	9,384
1922	9 5,535	2,800	1,542	1,244	618	676	122	214	422	246	913,419
Onions: 1917 1918 1919 1920 1921	2 4,666	1,146	1,606	1,178	753	286	50	149	407	108	2 10, 349
	4,465	695	1,542	1,208	519	276	25	75	389	220	9, 444
	4,801	1,403	1,398	976	438	226	61	83	284	174	9, 844
	4,072	1,237	1,554	1,115	687	283	40	107	426	226	9, 747
	10 4,129	1,545	1,482	922	559	314	71	91	345	196	10 9, 954
5-year av	4 4, 487	1,205	1,516	1,080	597	277	49	101	370	185	4 9, 868
1922	11 4, 933	1,673	1,698	951	672	400	65	115	453	214	11 11, 174
Peaches: 1917 1918 1919 1920 1921	3,620	1,067	827	1, 167	348	495	69	190	292	120	8, 195
	3,683	1,060	892	1, 010	188	415	97	83	205	138	7, 771
	3,935	1,357	944	1, 221	334	631	128	112	285	158	9, 105
	3,506	1,267	847	849	347	481	36	64	158	263	7, 818
	124,143	1,326	1,056	759	481	600	77	101	268	148	12 8, 959
5-year av	3,777	1,215	913	1,001	340	524	81	110	242	165	8,370
1922	18 4,617	2,107	1,016	1,071	438	609	161	192	331	252	18 10,794
Potatoes (sweet): 1921 1922	14 1,592 15 1,625	1,231 1,315	440 378	913 962	194 127	368 461	38 65	91 141	180 147	197 167	14 5, 214 15 5, 388

¹ Unloads as shown in carlots include those by boat reduced to carlot basis.

¹ Unloads as shown in earlots include those by boat red? Reports incomplete.
2 An additional 152 cars received in L. C. L. receipts.
4 Including incomplete reports of 1917.
5 An additional 558 cars received in L. C. L. receipts.
6 An additional 558 cars received in L. C. L. receipts.
7 An additional 55 cars received in L. C. L. receipts.
8 An additional 152 cars received in L. C. L. receipts.
9 An additional 292 cars received in L. C. L. receipts.
10 An additional 306 cars received in L. C. L. receipts.
11 An additional 465 cars received in L. C. L. receipts.
12 An additional 74 cars received in L. C. L. receipts.
13 An additional 1,385 cars received in L. C. L. receipts.
14 An additional 1,642 cars received in L. C. L. receipts.
15 An additional 1,642 cars received in L. C. L. receipts.
16 An additional 1,368 cars received in L. C. L. receipts.

FRUITS AND VEGETABLES-Continued.

Table 338.—Fruits and vegetables: Yearly unloads of nine commodities at 10 markets in carlots, 1917 to 1922 —Continued.

Crop and year.	New York.	Chi- cago.	Phila- del- phia.	Pitts- burgh.	St. Louis.	Cin- cin- nati.	St. Paul.	Min- neap- olis.	Kan- sas City.	Wash- ing- ton	Total.
Potatoes (white): 1917	2 20, 601	9,609	6,441	5,185	2,904	1,573	410	1,196	2,546	439	² 50, 904
	19, 330	12,477	6,823	6,516	2,739	1,538	125	397	2,602	1,213	53, 760
	18, 378	12,158	7,668	7,326	2,756	2,047	150	498	2,521	1,000	54, 502
	17, 424	11,302	7,190	5,614	2,512	2,189	437	756	2,145	885	50, 454
	3 17, 986	13,077	7,460	5,396	3,592	2,857	594	845	2,257	1,153	³ 55, 217
5-year av	4 18,744	11,725	7,116	6,007	2,901	2,041	343	738	$2,414 \\ 2,433$	938	4 52, 967
1922	5 20,100	13,912	8,023	5,009	4,290	3,447	351	717		1,447	6 59, 729
Strawberries: 1917 1918 1919 1920 1921	1,206 898	910 876 1,246 909 1,499	679 304 243 291 300	435 271 166 185 321	89 77 45 85 132	287 255 232 80 356	82 52 58 49 72	199 119 101 84 147	173 100 50 68 180	10 18 50 75 50	5,635 3,278 3,089 3,028 64,158
5-year av	1,436	1,088	363	276	86	242	63	130	114	41	3,838
1922	7 2,193	1,719	568	497	272	474	160	351	262	47	76,543
Tomatoes: 1917	3,229 2,986	1,333 1,008 1,020 1,199 1,588	696 698 943 826 1,105	945 1,016 993 765 919	237 64 178 220 327	347 191 202 218 287	27 39 24 15 34	75 64 50 49 58	266 185 235 214 262	105 115 158 180 193	² 7,341 6,609 6,789 6,839 8 7,645
5-year av	43,110	1,230	854	928	205	249	28	59	232	150	47,045
1922	93,974	1,918	1,382	1,219	444	438	75	121	330	231	9 10,132
Totals: 1917 1918 1919 1920 1921 5-year av	47,767 46,934 10 51,918 4 48,827	23,033 27,026 26,432 30,988 25,563	15,389 16,771 16,922 18,479 16,459	13,444 15,710 15,772 13,892 14,465 14,657 15,192	7,734 6,301 6,181 7,142 8,729 7,217 10,093	4,467 4,771 5,942 6,018 7,901 5,820 8,543	1,053 840 793 1,112 1,420 1,044 1,597	2,618 1,481 1,412 1,739 1,996 1,849 2,667	5, 407 4, 898 4, 918 4, 812 5, 346 5, 076 5, 668	1, 400 2, 834 2, 444 2, 878 2, 934 2, 498 3, 434	2 119, 545 124, 415 129, 026 127, 881 10 144, 176 4 129, 009 11 159, 296

¹ Unloads as shown in carlots include those by boat reduced to carlot basis.

<sup>Unloads as shown in carlots include those by boat red 2 Reports incomplete.
An additional 1,754 cars received in L. C. L. receipts.
Including incomplete reports of 1917.
An additional 751 cars received in L. C. L. receipts.
An additional 822 cars received in L. C. L. receipts.
An additional 650 cars received in L. C. L. receipts.
An additional 512 cars received in L. C. L. receipts.
An additional 814 cars received in L. C. L. receipts.
An additional 8325 cars received in L. C. L. receipts.
An additional 6,348 cars received in L. C. L. receipts.</sup>

SUGAR.

Table 339.—Sugar: Production in the United States and its possessions, 1856-5; to 1922-23.1

Data for 1912-13 and subsequently beet sugar, also Louisiana and Hawaii cane sugar, estimated by United States Department of Agriculture; Porto Rico, by Treasury Department of Porto Rico; Philippine Islands, production estimated by the Philippine Department of Agriculture and exports for years ending June 30. For sources of data for earlier years, see Yearbook for 1912, p. 650. A short ton is 2,000 pounds.

							•
			d'ann	mana tabaad			1
			cane's	ugar (chiefl	y raw).]
,	Beet sugar	!	,		,	1	1
Year.	(chiefly					Philip-	Total.
	refined).	Louisi-	Other	Porto	Hawaii.	pine	1
		ana.	States.2	Rico.		Islands.	
	1					1	1
Average:	Short tons.	Short tons.	Short tons	Short tons.	Short tons.		Short tons.
1856–57 to 1860–61		132, 402	5,978	75, 364		46, 446	260, 190
1861-62 to 1865-66	269	74, 036	1,945	71,765		54, 188	202, 503
1866-67 to 1870-71	448	44, 768	3,818	96,114		81,485	226,633
1871–72 to 1875–76	403	67,341	4,113	87,606	(1) 27, 040	119,557	279,020
1876-77 to 1880-81	470	104, 920	5,327	76, 579	27,040	169,067	383, 403
1881–82 to 1885–86	692	124,868	7,280	87, 441	76, 075	189, 277	485, 633
1896-87 to 1890-91	1,922	163,049	8, 439	70,112	125, 410	186, 129	555,091
1891-92 to 1895-96	19, 406	268,655	6, 634	63, 280	162, 538	286 629	807, 142
1896-97 to 1900-1901	58, 287	282, 399	4, 405	61, 292	282, 585	286, 629 134, 722	823,690
1901-2 to 1905-6		352, 0.3	12, 126	141, 478	403, 308	108, 978	1,257,673
1906-7 to 1910-11		348, 544	13,664	282, 136	516, 041	145, 832	1, 785, 370
2007 0	7.14 202	1000					1 000 707
1901-2		360, 277 368, 734	4,048 4,169	103, 152	355, 611 437, 991	75,011 123,108	1,082,705 1,252,984
1902–3 1903–4	218, 406 240, 604	255, 894	22, 176	100, 576 138, 096	367, 475	82, 855	1, 202, 984
10045	242, 113	398 195	16, 800	151,088	426, 248	125, 271	1,359,715
1904-5. 1905-6.	312, 921	377, 162	13, 440	214, 480	429, 213	138, 645	1,485,861
	1	011,202	10, 110	221, 100	420, 210	100,010	1,100,001
1906-7	483,612	257,600	14,560	206,864	440, 017	132,602	1,535,255
1907-8	463, 628	380,800	13,440	230,095	521, 123	167, 242	1,776,328
1908-9	425, 884	397,600	16,800	277,093	535, 156	123, 876	1,776,409
1909–10	512, 469	361,000	11,200	346,786	517, 090	140,783	1,892,328
1910–11	510, 172	342,720	12, 320	349, 840	566,821	164, 658	1,946,531
1911-12	599, 500	352, 874	8,000	371,076	595, 038	205,046	2, 131, 534
1912-13	692, 556	153, 573	9,000	398,004	546, 524	6 345,077	2, 144, 734
1913-14	733, 401	292, 698	7,800	351,666	612,000	6 408, 339	2,405,904
1913–14 1914–15	722, 054	242, 700	3,920	346, 490	646,000	5 421, 192	2, 382, 356
1015 10		107 500	1 110	440 500	F00 F00		0 501 407
1915-16.	874, 220 820, 657	137, 500	1,120 7,000	483, 590 503, 081	592, 763 644, 663	5 412, 274 5 425, 266	2,501,467 2,704,567
1916–17 1917–18	765, 207	303, 900 243, 600	2, 240	453, 794	576, 700	474,745	2, 516, 286
1917-18	760, 950	280,900	3, 500	406,002	600,312	453,346	2, 505, 010
	100,000	2.0,000	17, 17,0	300,002	000,012	300,040	مر درس
1919-20	726, 451	121,000	1, 125	485,071	556,343	446,912	2,356,902
1920-21	1,089,021	169, 127	6,987	489,818	521,759	608, 499	2, 885, 211
1921-22	1,020,489	324, 431	3, 270				
1922-23	691,000	241,376					
]	1	1	4	1	

¹ Census returns give production of beet sugar for 1899 as 81,729 short tons; for 1904, 253,921; 1909, 501,882; production of cane sugar in Louisiana for 1839, 59,974 short tons; 1849, 226,001 hogsheads; 1859, 221,728 hogsheads; 1869, 80,706 hogsheads; 1879, 171,706 hogsheads; 1889, 146,062 short tons; 1898, 278,497 short tons; 1899, 159,583; and 1909, 325,516 short tons; cane sugar in other States, 1839, 491 short tons, in 1849, 21,576 hogsheads; in 1859, 9,256 hogsheads; in 1869, 6,337 hogsheads; in 1879 7,166 hogsheads; in 1889, 4,580 short tons; in 1899, 1,691; and in 1909, 8,687 short tons.
² Includes Texas only, subsequent to 1902–3. Unofficial returns prior to 1918–19.
² Exports for years ending June 30.
² Complete data not available for this period. Production in 1878–79, 1,254 short tons; in 1879–80, 1,304 short tons.

short tons.

⁵ Production.

SUGAR-Continued.

Table 340.—Sugar beets and beet sugar Production in the United States, 1913-1922.

[Figures for 1922 are subject to revision]

	[Figu	res for 1922	are subjec	t to revision]		
	A	rea of beet	s.	Beets pi		eight as deliv ries).	ered to
State and year.1		Harv	ested.				Price to
	Planted.	Amount.	Per cent of planted.	Quantity.	Yield per acre.	Farm value.	growers per ton.
California: 1918 1919 1920 1921 1922 Colorado:	Acres.	Acres.	Per cent	Short tons.	Short tons	Dollars.	Dollars.
	121,000	101,000	83. 28	858,000	8.52	8,534,000	9. 95
	130,000	107,000	82. 76	816,000	7.61	11,561,000	14. 17
	136,000	123,000	90. 50	1,074,000	8.74	14,096,000	13. 13
	136,000	121,000	88. 91	1,046,000	8.67	7,851,000	7 51
	62,000	59,000	95. 16	441,000	7.48	3,868,000	8. 77
1918	142,000	126,000	88, 65	1,444,000	11.47	14, 474, 000	10. 02
1919	236,000	183,000	77, 28	1,765,000	9.66	19, 143, 000	10. 85
1920	254,000	220,000	86, 69	2,325,000	10.58	27, 627, 000	11. 88
1921	214,000	200,000	93, 48	2,279,000	11.39	14, 521, 000	6. 37
1922	165,000	150,000	90, 91	1,473,000	9.81	7, 823, 000	5. 31
Idaho: 1918 1919 1920 1921 1922 Michigan:	38, 000 54, 000 58, 000 53, 000 33, 000	32,000 30,000 45,000 41,000 25,000	85. 69 56. 48 78. 32 78. 56 75. 76	344,000 203,000 396,000 380,000 277,000	10.66 6.70 8.77 9.18 11.16	3, 443, 000 2, 235, 000 4, 787, 000 2, 279, 000 1, 525, 000	10.00 11.00 12.10 6.00 5.50
1918	134,000	115,000	85, 48	967, 000	8. 40	9,741,000	10 08
1919	166,000	123,000	74, 28	1, 211, 000	9. 82	15,158,000	12.52
1920	164,000	150,000	91, 31	1, 313, 000	8. 78	13,236,000	10 08
1921	164,000	148,000	90 26	1, 153, 000	7. 80	7,041,000	6 10
1922	106,000	83,000	78, 30	690, 000	8. 33	3,898,000	5 65
1918	45, 000	43,000	95. 84	485, 000	11. 35	4, 833, 000	9. 96
1919	65, 000	59,000	91. 22	601, 000	10. 16	6, 546, 000	10 90
1920	79, 000	72,000	91, 63	718, 000	9. 93	8, 587, 000	11. 96
1921	72, 000	72,000	100. 66	773, 000	10. 72	5, 093, 000	6. 59
1922	55, 000	55,000	100. 00	688, 000	12. 43	3, 440, 000	5. 00
Ohio: 1918 1919 1920 1921 1922 Utah:	36,000	33,000	90. 16	315,000	9, 69	3,162,000	10. 03
	37,000	31,000	83. 29	327,000	10, 58	4,168,000	12. 75
	54,000	49,000	91. 28	436,000	8, 86	4,313,000	9. 89
	36,000	33,000	91. 20	264,000	8, 10	1,596,000	6. 05
	28,000	25,000	89. 29	211,000	8, 34	1,161,000	5. 50
1918.	90,000	82,000	90. 70	1,003,000	12. 27	10,041,000	10. 01
1919.	110,000	103,000	94 12	1,016,000	9. 84	11,148,000	10. 97
1920.	116,000	113,000	96. 96	1,390,000	12. 35	16,713,000	12. 03
1921.	111,000	112,000	101. 21	1,152,000	10 26	6,300,000	5. 47
1922.	80,000	74,000	98. 75	860,000	11. 64	4,369,000	5. 08
1918 1919 1920 1921 1922 Other States:	15, 000 16, 000 29, 000 18, 000 13, 000	12,000 12,000 21,000 17,000 9,000	83. 22 74. 69 71, 33 91. 48 69. 23	100,000 117,000 190,000 148,000 79,000	8.05 9 71 9.19 8.82 8.72	998,000 1,411,000 1,940,000 1,034,000 471,000	10.00 12.02 10.20 7.00 5.95
1918	69, 000	50,000	73, 66	433,000	8. 53	4, 268, 000	9. 86
1919	76, 000	41,000	56, 61	365,000	8. 39	4, 050, 000	11. 08
1920	88, 000	79,000	88, 54	696,000	8. 75	8, 025, 000	11. 52
1921	78, 000	71,000	89, 63	587,000	8. 23	3, 911, 000	6. 65
1922	64, 000	57,000	89, 06	524,000	9. 20	3, 050, 000	5. 83
United States: 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921.	635,000 515,000 604,000 768,000 807,000 690,000 978,000 978,000 882,000 606,000	580,000 483,000 611,000 665,000 665,000 594,000 872,000 815,000 537,000	91, 33 93, 94 92, 02 86, 57 82, 43 86, 13 77, 77 89, 08 92, 36 88, 61	5, 886, 000 5, 585, 000 6, 511, 000 6, 228, 000 5, 980, 000 5, 949, 000 6, 421, 000 8, 538, 000 7, 782, 000 5, 243, 000	10. 10 11. 60 10. 70 9. 36 9. 00 10. 01 9. 27 9. 79 9. 55 9. 76	33, 491, 000 30, 438, 000 36, 950, 000 38, 139, 000 44, 192, 000 59, 494, 000 75, 420 000 99, 324, 000 49, 626, 000 29, 605, 000	5. 69 5. 45 5. 67 6. 12 7. 39 10. 00 11 74 11 63 6 38 5. 65

SUGAR-Continued.

Table 340. -- Sugar beets and beet sugar: Production in the United States, 1913-1922-Continued.

-				Sug	ar beet:	sused.	\nal;	ysis of ets.	Recov	ery of ose.	
State and year ¹	Fac- tories oper- ati n.		Sugar made (chrefly refined).	Area har- vested.	Average geld per sere	Quantity worked sliced).	Per- cent- age of su- crose,2	cient 3	Per- cent- age of weight of beets.	Per- cent- age of total sucrose in beets	Į.
California 1918 1919 1920 1921 1922 Colorado:	No. 13 10 10 9 7	Days. 81 76 90 84	Shorttons, 123, 000 131, 000 168, 000 171, 000 72, 000	Acres, 101, 000 107, 000 123, 000 121, 000 59, 000	Short tons. 8.40 7.51 8.56 8.62	Shorttons, 846,000 805,000 1,052,000 1,040,000 441,000	Per cent 17, 03 17 87 17 66 17, 50 18,60	Per cent 81, 50 82, 02 81, 44 81, 46	Per cent. 14, 52 16, 30 15, 97 16, 48 16, 30	Per cent. 85, 26 91, 21 90, 43 92, 58 87, 63	Per cent. 2. 51 1. 57 1. 69 1. 32 2. 30
1918 1919 1920 1921 1922	14 15 17 15 15	76 87 98 95	192, 000 191, 000 291, 000 295, 000 183, 000	126, 000 183, 000 220, 000 200, 000 150, 000	10, 83 9, 07 9, 85 10, 79	1,363,000 1,656,000 2,166,000 2,159,000 1,173,000	16, 10 13, 62 15, 81 15, 66 14, 86	85, 96 83, 85 85, 15 83, 28	14.07 11.71 13.60 13.66 12.42	87, 39 85, 98 86, 02 87, 23 83, 58	2.03 1.91 2.21 2.00 2.44
1918 1919 1920 1921 1922	7 6 8 7 5	87 50 72 60	45,000 26,000 57,000 57,000 11,000	32,000 30,000 45,000 41,000 25,000	10. 12 6. 49 8. 97 8. 57	327,000 197,000 405,000 355,000 277,000	16, 57 15, 18 16, 26 17, 45 16, 66	86, 46 86, 15 86, 42 86, 51	13, 66 13, 29 13, 98 15, 99 14, 91	82, 44 85, 85 85, 98 91, 63 89, 50	2.91 2.19 2.28 1.46 1.75
Michigan. 1918. 1919. 1920. 1921. 1922. Nebracks:	16 16 17 17 15	75 84 87 71	128,000 130,000 166,000 122,000 86,000	115,000 123,000 150,000 148,000 83,000	7.71 8.36 8.32 7.55	890,000 1,032,000 1,214,000 1,117,000 690,000	16.61 11.57 15.79 13.28 14.33	85, 49 81, 78 84, 04 81, 68	14.38 12.63 13.31 10.95 12.41	86.51 86.68 84.48 82.45 86.60	2. 23 1 94 2. 45 2 33 1. 92
Nebraska: 1918 1919 1920 1921 1922 Ohio:	4 4 5 5 5	99 112 110 106	63,000 61,000 90,000 105,000 85,000	43,000 59,000 72,000 72,000 55,000	10. 60 9. 37 9. 26 10. 12	453, 000 554, 000 670, 000 730, 000 688, 000	16, 05 13, 14 15, 74 16, 60 15, 19	86, 14 82, 80 83, 94 84, 55	14.01 10.99 13.37 14.13 12.31	87. 29 83. 64 84. 91 86. 93 81. 04	2.04 2.15 2.37 2.17 2.88
1918 1919 1920 1921 1922	5 5 5 5 5 4	91 79 100 62	35,000 32,000 47,000 26,000 27,000	33,000 31,000 49,000 33,000 25,000	8, 91 9, 43 7, 77 7, 61	291,000 292,000 382,000 218,000 211,000	15, 74 14, 15 15, 44 13, 11 14, 75	84. 23 82. 73 82. 45 81. 41	12, 19 10, 93 12, 31 10, 16 12, 89	77. 45 77. 24 79. 73 78. 00 87. 39	3. 55 3 22 3. 13 2 95 1.86
Utah: 1918 1919. 1920. 1921 1922 Wisconsin:	16 18 18 18 18	98 84 102 78	106,000 101,000 163,000 156,000 118,000	82,000 103,000 113,000 112,000 74,000	11.08 8.80 11.20 9.66	905,000 908,000 1,261,000 1,081,000 860,000	15, 29 13, 87 15, 62 16, 52 16, 23	84. 21 82. 39 84. 27 84. 72	11.69 11.12 12.89 14.27 13.72	76. 16 80 17 82. 52 86. 99 84. 53	3.60 2.75 2.73 2.15 2.51
1918 1919 1920 1921 1922 Other States	4 4 5 4	61 60 80 51	13,000 11,000 21,000 14,000 10,000	12,000 12,000 21,000 17,000 9,000	7.54 8.73 8.16 7.96	93, 000 106, 000 169, 000 133, 000 79, 000	16, 29 13, 16 15, 86 13, 47 16, 10	82, 40 81, 73 82, 53 82, 11	14, 29 10, 07 12, 40 10, 59 12, 99	87, 72 76, 52 78, 18 78, 62 80, 68	2.00 3.09 3.46 2.88 3.11
1918 1919 1920 1921 1922	10 11 12 11 10	64 52 70 60	56,000 40,000 83,000 74,000 69,000	50,000 44,000 79,000 71,000 57,000	8.05 7.77 8.07 7.69	410,000 338,000 612,000 548,000 524,000	15, 95 14, 27 15, 46 15, 41 15, 90	84, 31 83, 14 83, 12 81, 89	13, 59 11, 95 13, 06 13, 50 13, 08	85, 20 83, 74 84, 48 87, 61 82, 26	2, 36 2, 32 2, 40 1, 91 2, 82
United States: 1913 1914 1915 1916 1917 1918 1919 1920 1921	71 60 67 74 91 89 89	85 85 92 80 74 81 78 91	733,000 722,000 874,000 821,000 765,000 761,000 726,000 1,089,000	580,000 483,000 611,000 665,000 665,000	9.76 10.90 10.10 8.90 8.46 9.39 8.50 9.17	5, 659, 000 5, 288, 000 6, 150, 000 5, 920, 000 5, 626, 000 5, 578, 000 5, 888, 000 7, 991, 000	15. 78 16. 38 16. 49 16. 30 16. 28 16. 18 14. 48 15. 99	83, 22 83, 89 84, 38 81, 74 83, 89 84, 70 82, 84 83, 96	12, 96 13, 65 14, 21 13, 86 13, 60 13, 64 12, 34 13, 63	82, 13 83, 33 86, 17 85, 03 83, 54 84, 30 85, 22 85, 24	2.82 2.73 2.28 2.44 2.68 2.54 2.14 2.36
1921 1922	92 81	76	1,020,000 691,000	692, 000 872, 000 815, 000 537, 000	9. 10	7, 414, 000 5, 243, 000	15. 77 15. 59	83.09	13.76	87. 25 84. 48	2. 01 2. 42

<sup>Acreage and production of beets are credited, as in former reports, to the State in which the beets were made into sugar.

Based upon weight of beets.

Percentage of sucrose (pure sugar) in the total soluble solids of the beets.

Percentage of sucrose actually extracted by featuring.</sup>

SUGAR-Continued.

Table 341.—Cane-sugar production of Louisiana, 1911-1922.

[Figures for 1922 are from returns made before the end of the season, and are subject to revision.]

Vecuetone	Factories	Sugar	Average sugar	Car	ne used for	sugar.	Molasses made.1		
Year of cane harvest.	in opera-	made.	made per ton of cane.	Area.	Average per acre	Produc- tion.	Total.	Per ton of sugar.	
1911. 1912. 1913.		Short tons 352, 874 153, 573 292, 698 242, 700	Pounds. 120 142 139 152	Acres. 310,000 197,000 248,000 213,000	Short tons. 19 11 17 15	Short tons 5,887,292 2,162,574 4,214,000 3,199,000	Gallons. 35, 062, 525 14, 302, 169 24, 046, 320 17, 177, 443	Gallons. 99 93 82 71	
1915	150	137, 500 303, 900 243, 600 280, 900	135 149 128 135	183,000 221,000 244,000 231,200	11 18 15.6 18	2,018,000 4,072,000 3,813,000 4,170.000	12, 743, 000 26, 154, 000 30, 728, 000 28, 049, 000	93 86 126 100	
1919. 1920. 1921. 1922.	122 124	121,000 169,127 324,431 241,376	129 136. 1 155. 2 144. 4	179, 900 182, 843 226, 366 217, 000	10.5 13.6 18.5 15.4	1, 883, 000 2, 492, 524 4, 180, 780 3, 342, 000	12, 991, 000 16, 856, 867 25, 423, 341 20, 420, 000	107 100 78 85	

¹ Figures for molasses, 1911–1914, are as reported by the Lomsiana Sugar Planters' Association; figures for later years as reported by the Bureau of Markets and Crop Estimates, U.S. Department of Agriculture.

Table 342.—Area of sugar cane and production of cane sirup, United States, 1920-1922.

			Produ	ırup.²					
State.	Total.			Harv	ested for s	sirup	1000	7.00	1000
	1920	1921	1922	1920	1921	1922	1920	1921	1922
South Carolina	Acres. 8, 200 53, 100 28, 000 55, 000 33, 100 268, 300 16, 400 3, 200	Acres. 8, 700 61, 000 34, 000 71, 000 39, 200 294, 500 18, 000 3, 000	Acres. 9,600 50,000 29,000 79,000 37,000 294,000 18,800 3,600	Acres. 7,800 44,100 24,000 42,000 28,300 18,300 7,100 2,500	Acres. 8, 200 45, 000 30, 000 60, 000 33, 700 18, 900 12, 000 2, 400	Acres. 8, 900 40, 000 24, 000 69, 000 32, 000 21, 600 14, 200 3, 100	1,000 gallons. 858 9,697 6,110 7,665 7,358 4,640 2,215 437	1,000 gallons. 1,107 7,335 6,300 8,760 7,582 6,454 3,192 437	1,000 gallons. 1, 288 7, 040 4, 800 11, 937 7, 040 6, 020 2, 485 531
Total	465, 300	529,400	521,000	174, 100	210, 200	212,800	38, 980	41, 167	41, 141

 $^{^1}$ Sorghum, some times confused with sugar cane, is not included. 2 The production of molasses (a by-product from sugar) in Louisiana is forecast at 20,420,000 gallons for 1922 compared with 25,423,000 gallons in 1921 and 16,857,000 gallons in 1920.

Table 343.—Total and per capita sugar supply of the United States, 1901-1920.

The "supply" shown below consists of domestic production, plus imports, minus exports, and is quoted from the Statistical Abstract of the United States for 1918, pp 560-561, for all years except 1919. Figures for 1919 are based upon the Burcau of Crop Estimates reports on production and the Burcau of Foreign and Domestic Commerce reports on exports and imports. The average per capita supply is computed from the Census estimates of population for June 1, 1901-1915, July 1, 1916, and subsequently. No allowance has been made for sugar carried over from one fiscal year to the next.

Year ending	("cons	oply sump- ") of gar.	Year ending	ending		Year ending	Supply ("consump tion") of sugar.		Year ending	Supply ("consump- tion") of sugar.	
June 30.	June 30. Total. Per cap- rata.	June 30.	Total.	Per cap- ıta.	June 30. Total.		Per cap- ita.	June 30.	Total	Per cap- ita.	
1901	Mil- lions of lbs. 5,585 5,019 6,380 5,662 5,026	71. 96 63. 35 78. 92 68. 66 71. 66	1906	Mil- lions of lbs 6, 491 7, 090 6, 591 7, 283 7, 360	74. 11 80. 43 79. 87	1911	Mil- lions of lbs 7, 236 7, 862 8, 324 8, 794 8, 627	85, 43 89 91 86 91	1918	Mil- lrons of lbs. 7, 960. 8, 467 8, 086 8, 773 9, 733 8, 596 10, 548 11, 237	82. 87 78. 06 83. 55 91. 46 83. 56 97. 82

¹ Preliminary.

Table 344.—Cane sugar production of Hawaii, 1913-1922.

[1922 figures subject to revision.]

				1000 00 10 12					
	Average	Sugar	tage the tot sugar.					ge extrac- of sugar.	
Island and year end- ing Sept. 30.	length of cam- paign.	made (chiefly raw).	made (chiefly		Pro- duction.	Total area in cane.	Per cent of cane.	Per short ton of cane.	
Territory of Hawaii: 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1920. 1921. 1922. Island of Hawaii: 1920. 1921. 1922. Island of Kauai: 1920. 1921. 1922. Island of Maui: 1920. 1921. 1922. Island of Maui: 1920. 1921. 1922. Island of Oahu: 1920. 1921. 1922. Island of Oahu: 1920. 1921.	Days. 169 183 195 180 190 184 178 175 202 199 168 191 198 201 219 200 138 177 159	Short tons. 546, 524 612, 000 646, 000 592, 763 641, 663 576, 700 600, 312 555, 727 521, 579 592, 000 186, 062 195, 267 223, 000 104, 938 83, 569 94, 000 125, 896 116, 630 124, 000 128, 831 126, 113 151, 000	Acres. 114,600 112,700 113,200 115,419 123,900 115,119,800 114,100 124,000 50,800 55,600 55,000 21,900 19,900 19,900 19,900 21,500 21,500 21,500 21,500 21,500	Short tons. 39 43 46 42 42 41 40 39 41 41 31 31 37 41 45 36 48 48 46 50 48	Short tons. 4, 476, 000 4, 900, 000 5, 185, 000 4, 859, 124 5, 220, 000 4, 741, 000 4, 773, 000 5, 088, 000 1, 790, 000 2, 010, 000 881, 000 842, 000 947, 000 971, 000 1, 034, 000 1, 034, 000 1, 107, 000	Acres. 239, 800 246, 332 245, 100 276, 800 239, 900 217, 900 238, 500 229, 000 115, 400 42, 700 43, 000 44, 300 44, 300 45, 400 47, 100 42, 000	Per cent. 12. 21 12. 49 12. 46 12. 20 12. 35 11. 88 12. 65 12. 42 11. 20 11. 64 11. 67 10. 91 11. 70 9. 45 11. 22 14. 35 13. 31 12. 76 11. 39 11. 92	Lbs, 244 250 249 224 233 248 222 234 286 255 249 228 238 238 239 224 287 266 255 249 2228 238	

Table 345.—Sugar International trade, calendar years 1909-1921.

The following kinds and grades have been included under the head of sugar: Brown, white candied, caramel, chancaca (Peru), crystal cube, maple, muscovado, panela. The following have been excluded: "Candy" (meaning confectionery), confectionery, glucose, grape sugar, jaggery, molasses, and sirups. See "General note," Table 161.

-								
Country	Average,	1909–1913.	19	19	19	20	19	21
Country	Imports.	Exports	Imports.	Exports.	Imports	Exports	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES.	1,000 pounds	1,000 pounds.	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Austria-Hungary Barbados	7,884 2 466	1,697,659 51,657		113, 819	1 130, 262	77, 811	1 177,667	1 1,009 59,015
Belgium Brazil British Guiana	15, 784 ² 234 ² 12, 224 1, 312	308, 952 76, 568 212, 393 4, 019, 798	231	186, 234	127, 356 13 1, 782	240, 612 187, 658	508	379.398
Cuba Dominican Republic. Dutch East Indies Fiji.	d 1, 533	184, 703 2, 825, 111	798 6, 195	4, 115, 514	4,741	3, 339, 067 163, 520	4,460	3,697,415
France	372, 395 6, 973	413, 795 1, 746, 322 75, 270	1,384,028	174, 300 39, 596	1,371,378 203,166	186, 564	753,504	229,757 6 24,539
Guadeloupe	461 2 4 165, 443	85, 110 452, 510 400, 980	105, 134	16, 498 667, 611 86, 240		402, 262 167, 827	(°) 103,647	505, 349 356, 963
Peru	1,451 7,900 44 7,487	83, 316	3,261	599, 920 299, 959 110, 160	5,379	551, 069 397, 579	5,529	639,061
Russia Trinidad and Tobago.	2 1, 045	587, 028 87, 510		84, 685		111,948		104, 151
PRINCIPAL IMPORTING COUNTRIES.								
Argentina	103, 380 152, 465 1, 431, 980	535 53, 222	252, 683 941, 930	340 52, 864	260, 454 704, 285	88,301	1,310,466	54, 199
British South Africa. Canada Chile. China	61, 282 595, 785 169, 931 687, 243	1, 513 1, 639 181 29, 867	9,561 1,059,898 198,022 691,717	38, 228 246, 980 1, 373 32, 833	4, 339 780, 877 163, 006 514, 305	76, 980 66	769, 742 146, 687	134, 807 88, 791 408 42, 257
Denmark Egypt Finland Italy	43, 627	45, 073	4, 142 25, 289	20, 308 56, 880	1,038	38, 558	10.341	20, 288 35, 390
Japan New Zealand	125, 924	603 120, 407 2 26, 955	62, 468 175, 224 606, 457 131, 340	151, 841 2, 643	25, 078 396, 509 138, 267	59 135, 755 1, 067	213,008 678,641	40
Norway. Persia. Portugal	104, 651 218, 703 79, 262	21,114	187, 229 82, 557 64, 741		200, 297 80, 288			
Singapore Switzerland United Kingdom United States	236, 403 3, 707, 211 4, 245, 034	95, 878 65, 207 79, 368	231, 322	2, 867 1, 475, 408 328, 746	91,676 279,056 3,035,175 8,073,760	5, 212 924, 192	170, 287 2, 864, 713 5, 967, 500	22 15, 977 933, 792
Other countries Total	954, 557	287, 612 14, 944, 141				406,819	595, 517	241,924

Austria only.
 Four-year average.
 One year only.

⁴ Three-year average. ⁸ Less than 500 ⁶ May to December.

Table 346.—Sugar production of undermentioned countries, campaigns of 1909-10 to 1921-22.

BEET SUGAR (RAW).

Country	Average, 1909-10 to 1913-14.	1916–17	1917–18	1918–19	1919-20	1920–21	1921-22,1
NORTH AMERICA.							
	Short tons.	Short tons	Short tons.	Short tons	Short tons.	Short tons	Short tons.
Canada 2, 3 United States 2, 3	11, 457 609, 620	8, 512 820, 657	11,688 765, 207	25, 046 760, 950	18, 920 726, 451	1, 089, 021	26, 431 1, 020, 489
TotalNorthAmer- ica 2	621,077	829, 169	776, 895	785, 996	745, 371	1, 133, 661	1,046,920
EUROPE.							=
Sweden 2. Denmark 2 Netherlands 2 Belgum 2 France 2 4 Spam 2 Italy 2 Switzerland 2 Germany 2 Austria. Czechoslovakia. Hungary 2 Yugoslavia. Bulgoria 2 Rumania. Poland 2 Russia 2 Total Europe 2. OCEANIA. Austrialia. Total 2. Total all countries	153, 581 127, 602 246, 311 276, 075, 759, 126 115, 727 208, 675 4, 390 2, 296, 131 43, 194 1, 017, 237 197, 742 20, 187 7, 688 59, 934 279, 374 1, 726, 231 6, 668, 983	151, 451 123, 623 281, 102 140, 473 204, 405 139, 280 159, 690 22, 236 289, 107 9, 945 6 292, 628 4 1,512, 000 4, 831, 938 2, 182 5, 661, 107	144, 443 148, 700 214, 891 135, 869 220, 752 154, 317 102, 100 0, 921 1, 720, 483 173, 024 11, 543 6 263, 163 4 1,009, 000 4, 314, 206 1, 904 5, 091, 101	140, 536 155, 755 181, 986 77, 951 121, 374 169, 223 119, 521 12, 125 1, 483, 807 687, 553 97, 517 3, 743 6 219, 219 4 367, 000 3, 179, 793	159, 843 149, 053 251, 843 151, 951 170, 969 91, 089 185, 001 1, 631 808, 304 5, 657 12, 477 13, 071 1, 213 6 106, 174 1 88, 000 2, 189, 021	181, 018 118, 810 317, 8264, 496 336, 247 104, 496 149, 913 4, 191, 729 15, 251 797, 118 36, 376 8, 267 16, 531 6 191, 765 4 100, 000 3, 041, 729 4, 175, 390	258, 778 157, 628 381, 908 315, 374 402, 956 4 91, 491 218, 073 6, 559 1, 420, 266 18, 035 729, 138 15 75, 711 11, 238 31, 907 6 198, 326 4 55, 113 3, 605, 432
reporting	8, 432, 092	5, 685, 525	5, 093, 005	1, 653, 342	3, 494, 067	5, 004, 323	5, 431, 493
		CA	NE SUG	R.			
NORTH AND CENTRAL AMERICA.		:					
United States: Louisiann 2 Tevas 2 Hawaii 2 Porto Rico Virgin Isalnds 2 Contral America: British Honduras Costa Rica Guatemala Nicaragua Salvador Mexico 3 West Indies: British Antigua Barbados Jamaica Montserrat St. Christopher St. Lucia St Vincent	301, 173 9, 604 567, 495 303, 474 9, 212 575 2, 922 8, 284 5, 000 13, 616 163, 030 12, 919 27, 788 23, 856 222 22, 13, 252	303, 900 7, 000 644, 663 503, 081 6, 720 6, 538 33, 069 16, 000 55, 115 20, 769 77, 691 43, 731 19, 040	243, 600 2, 240 576, 700 453, 794 6, 048 840 4, 282 33, 069 12, 000 20, 385, 580 19, 181 58, 195 38, 291 38, 291	280, 900 3, 500 600, 312 400, 002 10, 080 4, 225 25, 142 12, 000 30, 515 78, 400 14, 679 84, 304 48, 160 65 11, 318	121, 000 1, 125 556, 343 485, 071 13, 888 14, 816 16, 000 14, 304 103, 040 18, 667 77, 983 52, 500 151 13, 467	169, 127 6, 987 521, 579 489, 818 45, 040 11, 260 20, 000 110, 230 11, 396 62, 937 42, 560 151	324, 431 3, 270 4 540, 000 4 5, 600 4 14, 100 4 134, 200
st. Unristopher	5, 436 349	5,011	16,854 3,516	4, 100 638	13, 457 4, 928 1, 272	5,682	

^{1 1921-22} figures compiled from reports received up to Nov. 24, 1922.
2 Indicates countries reporting for all periods either as listed or as part of some other country.
3 Expressed in terms of refined sugar.

Table 346.—Sugar production of undermentioned countries, campaigns of 1909-10 to 1921-22—Continued.

CANE SUGAR-Continued.

Country.	Average, 1909-10 to 1913-14.	1916–17	1917–18	1918–19	1919–20	1920-21	1921–22 1
NORTH AND CENTRAL AMERICA—continued.							
West Indies—Contd. Cuba ² Dominican Repub-	Short tons 2, 295, 353	Short tons 3, 441, 771	Short tons 3,957,061	Short tons 4, 596, 710	Short tons 4, 209, 349	Short tons. 4, 451, 010	Short tons. 4, 475, 953
lic 2French:	106, 539	149, 943	172,800	186, 682	225, 920	229, 278	3 282, 237
Guadeloupe 2 Martinique	40, 917 42, 567	35, 690 23, 017	30, 864 22, 831	29, 326 11, 230	³ 25, 184 18, 147	³ 28, 027 26, 690	³ 35, 274
Total North and Central America 2	3, 544, 658	4, 716, 741	5, 107, 033	5, 836, 597	5, 309, 441	5, 586, 704	5, 862, 490
EUROPE AND ASIA							
Spain British India ² Formosa ² Japan	17, 059 2, 614, 326 192, 299 75, 718	5,053 3,057 600 504,897 141,438	6, 297 3, 708, 320 518, 089	6, 921 2, 654, 400 379, 323	7,452 3,400,320 321,614	6,864 2,825,760 385,805	2, 903, 040 368, 046
Java ² Philippine Islands	1,513,736 170,447	2, 008, 521 425, 266	1, 960, 118 474, 745	1, 478, 103 453, 346	1, 472, 796 466, 912	1, 578, 657 608, 499	3 1, 906, 417
Total Europe and Asia 2	4, 320, 361	5, 571, 018	6, 186, 527	4, 511, 826	5, 194, 730	4, 790, 222	5, 177, 503
SOUTH AMERICA.							
Argentina ²	193, 853 38, 284	92, 669 413, 362	97, 085 492, 728	139, 463 440, 479	328, 095 496, 035	231, 104 579, 946	212, 747 675, 608
British 2 Dutch 2	106, 194 12, 571	121, 163 15, 829	120, 467 12, 357	90, 350 8, 960	107, 520 8, 356	106, 400 11, 107	124, 303 3 11, 000
Paraguay Peru ²	12,571 1,363 210,608	279, 077	316, 890	336, 000	8, 356 2, 745 392, 000	385, 805	358, 252
Total South America 2	561, 510	922, 100	1, 039, 527	1, 015, 252	1, 332, 006	1, 314, 362	1, 381, 910
AFRICA.							
Egypt ²	67, 128 233, 671 88, 165	112,080 230,419 128,240	87, 620 248, 531 119, 000	83, 663 278, 187 164, 080	62, 694 267, 308 168, 000	73, 877 285, 385 176, 368	122, 039 259, 044 3 157, 000
Portuguese East Africa Reunion ²	27, 800 41, 658	40, 406 49, 604	47, 926 46, 462	22, 724 55, 115	38, 580 35, 644	44, 092 3 46, 384	³ 42, 541
Total Africa 2	. 430, 622	520, 343	501, 613	581, 045	533, 646	582, 014	580, 624
OCEANIA.							
Australia ² Fıjı ²	216, 331 84, 629	216, 201 134, 992	366, 900 109, 014	226, 527 72, 070	193, 730 81, 743	204, 428 66, 138	330, 960 8 59, 000
Total Oceania 2	300, 960	351, 193	475, 914	298, 597	275, 473	270, 566	389, 960
Total cane-sugar countries 2	9, 158, 111	12, 081, 395	13, 310, 614	12, 243, 317	12, 645, 296	12, 543, 868	13, 392, 487
Total cane-sugar countries reporting	9, 970, 758	13, 442, 302	14, 524, 589,	13, 379, 305	13, 879, 281	13, 874, 397	13, 406, 587
Total beet and cane- sugar countries 2	16, 448, 171	17,742,502	18, 401, 715	16, 209, 106	15, 579, 688	16, 719, 258	18,044,839
Total beet and cane-sugar coun- tries reporting	18, 402, 850	19, 127, 827	19, 617, 594	18, 032, 647	17, 373, 348	18, 878, 720	18,838,080

 ^{1 1921-22} figures compiled from reports received up to Nov. 24, 1922.
 2 Inducates countries reporting for all periods either as listed or as part of some other country.

Table 347.—Sugar: Total production of countries as reported 1895-96 to 1921-22.

Year		Production		37	Production.			
y ear	Cane.	Beet	Total	Year	Cune	Beet	Total.	
1895-96 1896-97 1897-98 1898-99 1899-1900 1900-1901 1901-2 1902-3 1902-3 1904-5 1905-6 1905-7 1907-8 1908-9		Short tons. 4, 832, 000 5, 519, 000 5, 457, 000 5, 616, 000 6, 262, 000 6, 795, 000 7, 743, 000 6, 454, 000 5, 525, 000 8, 090, 000 7, 587, 000 7, 380, 000 7, 380, 000 7, 380, 000	Short tons. 8, 991, 000 8, 720, 000 8, 663, 000 8, 971, 000 10, 879, 000 114, 561, 000 13, 236, 000 13, 187, 000 15, 611, 000 15, 611, 000 15, 316, 000 16, 004, 000	1909-10 1910-11 1911-12 1912-13 1913-14 1914-15 1916-16 1916-17 1917-18 1918-19 1919-20 1920-21 1921-22	Short tons. 9, 123, 000 9, 510, 000 10, 275, 000 10, 275, 000 11, 270, 200 11, 292, 907 12, 751, 793 13, 442, 302 14, 524, 589 13, 379, 305 13, 879, 281 13, 874, 397 13, 406, 587	Short tons. 6, 991, 000 9, 012, 000 7, 072, 000 9, 509, 769 9, 433, 783 8, 330, 628 5, 816, 555 5, 685, 525 5, 693, 005 4, 653, 342 3, 491, 067 5, 004, 323 5, 431, 493	Short tons. 16, 114, 000 18, 582, 000 17, 347, 000 20, 518, 000 20, 703, 983 19, 523, 535 18, 571, 348 19, 127, 827 19, 617, 594 18, 032, 647 17, 373, 348 18, 878, 720 18, 838, 080	

SUGAR BEETS.

Table 348.—Sugar beets Area and production in undermentioned countries, 1909-1922.

		Ar	ea.			Produ	etion	
Country.	Aver- age, 1909- 1913. ¹	1920	1921	1922 2	Average, 1909– 1913.1	1920	1921	1922 2
NORTHERN HEMISPHERE.			Separate Debug a					
NORTH AMERICA. Canada ³ United States ³ EUROPE.	1,000 acres. 18 568	1,000 acres. 36 872	1,000 acres. 28 815	1,000 acres. 26 606	1,000 short tons. 174 5,767	1,000 short tons. 412 8,538	1,000 short tons. 268 7,782	1,000 short tons. 246 5,000
England Sweden * Denmark * Netherlands * Belgium * France Spain Haly Switzerland * Germany * Austria Czechoslovakia Hungary * Yugoslavia Bulgaria * Rumania Poland * Finland Russia, including northern Caucasia (kuban) and	4 69 80 154 142 623 126 62 1,335 642 432 432 8 34 5 170	108 95 165 131 258 177 114 1 805 18 517 78 48 23 14 175 2	4 8 120 86 1k2 143 298 131 159 3 962 19 544 103 41 217 197 3	4 8 41 60 142 146 269 112 124 3 1,030 520 89 24	9 10 1, 025 2, 117 1, 720 7, 254 2, 180 2, 185 5 21 1 18, 509 8, 202 5, 275 81 3 1.6 5 1, 399	1, 146 934 2, 100 1, 585 2, 715 1, 352 1, 323 1, 323 1, 42 5, 270 703 271 90 98 1, 526 11	1,636 957 2,985 1,613 2,271 2,002 1,930 8,796 4,488 598 103 191 388 1,244	473 733 2, 0,535 1, 626 337 6 10, 896 5, 144 632 233 2, 715 13
Total 3	2,978	2,489	2,660	2,432	37,028	25,792	26,117	24,620
Total all countries re- porting	6,136	4,342	4,323	3,467	69,598	39,020	38, 235	30,02

 ¹ Two-year average, 1912-1913.
 2 1922 figures compiled from reports received up to Nov. 24, 1922.
 2 Indicates countries reporting for all periods either as listed or as part of some other country.
 4 Includes Wales.

MAPLE SUGAR AND SIRUP.

Table 349.—Maple sugar and sirup production, 1839-1922.

[Figures for 1922 subject to revision.]

CENSUS DATA.

State and year.	Trees	Sugar	Sirup	Total product in	Average	per tree.
State and year.	tapped.	made.	madê.	terms of sugar 1	As sugar.	As sirup.
United States ¹ 1839	Number.	Pounds. 2 34,516,266 34,253,436 40,120,205 28,443,645 36,576,061	Gallons. (3) (3) 1,597,589 921,057 1,796,048	Pounds. 52,900,917 35,812,101 50,944,445		Gallons
1889. 1899. 1909. 1919.	18,899,523 17,457,144	32,952,927 11,928,770 14,024,206 9,691,854	2,258,376 2,056,611 4,106,418 3,507,745	51,019,935 28,381,658 46,911,550 37,753,814	2. 48 2. 16	0. 31 0. 27

BUREAU OF AGRICULTURAL ECONOMICS DATA.

Total 13 States: 4	D 0 10.	EAU OF AC	TELEGOLI OF	TAD ECON	· · · · · · · · · · · · · · · · · · ·	A.	
Total 13 States: 4	State and wear				product in	Average	per tree.
1917	State and year.	tapped.	made.	made		As sugar.	As sirup.
1917	otal 13 States: 4	Number.	Pounds	Gallons	Pounds	Pounds	Gallone
1918.							0.32
1919	1918	19, 312, 000	13, 271, 000	4,905,000	52, 513, 000	2.72	.34
1920	1919	17,531,000	10,466,000	3,528,000	38,692,000		.28
1921			7,070,000		33, 768, 000		.24
1922	1921	15, 219, 000	4,887,000	2,411,000	24, 178, 000	1. 59	.20
Maine: 320,000 36,000 60,000 512,000 1.60 1920. 285,000 12,000 48,000 398,000 1.40 1921. 285,000 12,000 48,000 398,000 1.40 1922. 290,000 31,000 62,000 522,000 1.80 1921. 800,000 456,000 133,000 1,520,000 1.80 1922. 800,000 247,000 189,000 1,760,000 2.20 Vermont: 1920. 5,956,000 4,068,000 904,000 11,300,000 1.90 1921. 5,100,000 2,937,000 745,000 8,900,000 1.75 1922. 5,559,000 3,152,000 1,065,000 11,674,000 2.10 Massachusetts. 1920. 309,000 158,000 54,000 587,000 1.90 1921. 290,000 113,000 50,000 788,000 2.90 Connecticut: 1920. 12,000 3,000 4,000 36,000 <	1922		5,321,000	3,686,000	34, 806, 000		.26
1920		' '	-,,	-,,	,,		
1921		320,000	36,000	60,000	512,000	1.60	. 20
1920. 900,000 324,000 162,000 1,520,000 1,90 1921. 800,000 456,000 133,000 1,760,000 2,20 Vermont: 1920. 5,956,000 4,068,000 904,000 11,300,000 1.90 1921. 5,100,000 2,937,000 745,000 8,900,000 1.75 1922. 5,559,000 3,152,000 1,065,000 11,674,000 2,10 Massachusetts. 1920. 309,000 158,000 54,000 587,000 1.90 1921. 269,000 134,000 82,000 788,000 2,90 1922. 272,000 134,000 82,000 788,000 2,90 Connecticut: 1920. 12,000 3,000 4,000 36,000 3.00 1921. 8,000 6,000 2,000 4,000 35,000 3.00 1922. 10,000 2,000 4,000 35,000 3.50 New York: 1920. 4,875,000 1,755,000 999,000 9,750,000 2.00 1921. 4,193,000 881,000 624,000 5,870,000 1.40 1922. 4,487,000 1,755,000 999,000 9,750,000 2.00 1921. 4,193,000 881,000 624,000 5,870,000 1.40 1922. 4,487,000 1,185,000 1,085,000 9,865,000 2.20 Pennsylvania: 1920. 1,061,000 415,000 2,53,000 2,440,000 2,30 1921. 785,000 1,75,000 999,000 9,865,000 2.20 Pennsylvania: 1920. 1,061,000 415,000 2,800 960,000 1,22 1922. 815,000 173,000 98,000 2,201,000 2.70 Maryland:	1921	285,000	12,000	48,000	398,000	1.40	17
1920. 900,000 324,000 162,000 1,520,000 1,90 1921. 800,000 456,000 133,000 1,760,000 2,20 Vermont: 1920. 5,956,000 4,068,000 904,000 11,300,000 1.90 1921. 5,100,000 2,937,000 745,000 8,900,000 1.75 1922. 5,559,000 3,152,000 1,065,000 11,674,000 2,10 Massachusetts. 1920. 309,000 158,000 54,000 587,000 1.90 1921. 269,000 134,000 82,000 788,000 2,90 1922. 272,000 134,000 82,000 788,000 2,90 Connecticut: 1920. 12,000 3,000 4,000 36,000 3.00 1921. 8,000 6,000 2,000 4,000 35,000 3.00 1922. 10,000 2,000 4,000 35,000 3.50 New York: 1920. 4,875,000 1,755,000 999,000 9,750,000 2.00 1921. 4,193,000 881,000 624,000 5,870,000 1.40 1922. 4,487,000 1,755,000 999,000 9,750,000 2.00 1921. 4,193,000 881,000 624,000 5,870,000 1.40 1922. 4,487,000 1,185,000 1,085,000 9,865,000 2.20 Pennsylvania: 1920. 1,061,000 415,000 2,53,000 2,440,000 2,30 1921. 785,000 1,75,000 999,000 9,865,000 2.20 Pennsylvania: 1920. 1,061,000 415,000 2,800 960,000 1,22 1922. 815,000 173,000 98,000 2,201,000 2.70 Maryland:	1922					1.80	.22
1920	lew Hampshire:		,	,	, , , , , ,		
1921. 800,000 456,000 133,000 1,520,000 1,90 1922. 800,000 247,000 189,000 1,760,000 2.20 Vermont: 1920. 5,956,000 4,068,000 904,000 11,300,000 1.90 1921. 5,100,000 2,937,000 745,000 8,900,000 1.75 1922. 5,559,000 3,152,000 1,065,000 11,674,000 2.10 Massachusetts. 1920. 309,000 158,000 54,000 587,000 1.90 1921. 269,000 113,000 50,000 512,000 1.90 1922. 272,000 134,000 82,000 788,000 2.90 Connecticut: 1920. 12,000 3,000 4,000 36,000 3.00 1921. 8,000 6,000 2,000 36,000 3.00 1921. 8,000 6,000 2,000 35,000 3.50 New York: 1920. 4,875,000 1,755,000 999,000 9,750,000 2.00 1921. 4,193,000 881,000 624,000 35,870,000 1.40 1922. 4,487,000 1,185,000 1,085,000 9,865,000 2.20 Pennsylvania: 1920. 1,061,000 415,000 1,085,000 9,865,000 2.20 Pennsylvania: 1922. 815,000 242,000 244,000 2.30 1921. 785,000 173,000 98,000 9,865,000 2.20 Maryland:	1920	900.000	324,000	162,000	1,620,000	1.80	.22
1922 800,000 247,000 189,000 1,760,000 2,20	1921	800,000	456,000	133,000	1,520,000	1.90	.21
Vermont: 1920. 5,956,000 4,068,000 904,000 11,300,000 1.90 1921. 5,100,000 2,937,000 745,000 8,900,000 1.75 1922. 5,559,000 3,152,000 1,065,000 11,674,000 2.10 Massachusetts. 1920. 309,000 158,000 54,000 587,000 1.90 1921. 269,000 113,000 50,000 512,000 1.90 1922. 272,000 134,000 82,000 788,000 2.90 Connecticut: 1920. 12,000 3,000 4,000 36,000 3.00 1921. 8,000 6,000 2,000 24,000 3.50 3.00 1922. 10,000 2,000 4,000 36,000 3.00 3.00 1922. 10,000 2,000 4,000 35,000 3.50 3.50 New York: 1920. 4,875,000 1,755,000 999,000 9,750,000 2.00 1922. 4,487,000	1922	800,000	247,000	189,000	1,760,000	2. 20	.28
1921	ermont:				, ,		
1921	1920						.24
Massachusetts. 309,000 158,000 54,000 587,000 1.90 1921. 289,000 113,000 50,000 512,000 1.90 1921. 272,000 134,000 82,000 788,000 2.90 Connecticut: 1920. 12,000 3,000 4,000 36,000 3.00 1921. 8,000 6,000 2,000 24,000 3.00 1922. 10,000 2,000 4,000 35,000 3.50 New York: 1920. 4,875,000 1,755,000 999,000 9,750,000 2.00 1922. 4,193,000 881,000 624,000 5,870,000 1.40 1922. 4,487,000 1,185,000 1,085,000 9,865,000 2.20 Pennsylvania: 1,20 1,061,000 415,000 253,000 2,440,000 2.30 1921. 785,000 173,000 98,000 960,000 1.22 1922. 815,000 242,000 245,000 2,201,000 <td< td=""><td>1921</td><td></td><td>2,937,000</td><td></td><td>8,900,000</td><td></td><td>. 22</td></td<>	1921		2,937,000		8,900,000		. 22
Massachusetts. 309,000 158,000 54,000 587,000 1.90 1921. 269,000 113,000 50,000 512,000 1.90 1922. 272,000 134,000 82,000 788,000 2.90 Connecticut: 1920. 12,000 3,000 4,000 36,000 3.00 1921. 8,000 6,000 2,000 24,000 3.00 1922. 10,000 2,000 4,000 35,000 3.50 New York: 1920. 4,875,000 1,755,000 999,000 9,750,000 2.00 1921. 4,193,000 881,000 624,000 5,870,000 1.40 1922. 4,487,000 1,185,000 1,085,000 9,865,000 2.20 Pennsylvania: 1920. 1,061,000 415,000 253,000 2,440,000 2.30 1921. 785,000 173,000 98,000 2,440,000 2.20 1921. 785,000 173,000 98,000 2,240,000 <	1922	5,559,000	3,152,000	1,065,000	11,674,000	2. 10	. 26
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	lassachusetts.	' '					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1920		158,000	54,000	587,000		. 24
Connecticut: 1920. 12,000 3,000 4,000 36,000 3.00 1921. 8,000 6,000 2,000 24,000 3.00 1922. 10,000 2,000 4,000 35,000 3.50 New York: 1920. 4,875,000 1,755,000 999,000 9,750,000 2.00 1921. 4,193,000 881,000 624,000 5,870,000 1.40 1922. 4,487,000 1,185,000 1,085,000 9,865,000 2.20 Pennsylvania: 1920. 1,661,000 415,000 253,000 2,440,000 2.30 1921. 785,000 173,000 98,000 960,000 1.22 1922. 815,000 242,000 245,000 2,201,000 2.70 Maryland: 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1921						. 24
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1922	272,000	134,000	82,000	788,000	2, 90	.36
1921	onnecticut:				00.000	0.00	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1920		3,000	4,000	36,000		.38
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1921	8,000	6,000	2,000			. 38
1920.	1922	10,000	2,000	4,000	35,000	3.50	. 14
1922	ew York:	4 075 000	1 777 000	000 000	0 750 000	0.00	0.5
1922	1920	4,875,000	1,755,000	999,000	9,750,000		. 25
1920. 1,061,000 415,000 253,000 2,440,000 2.30 1921. 785,000 173,000 98,000 960,000 1.22 1922. 815,000 242,000 245,000 2,201,000 2.70 Maryland:	1921	4, 193, 000		1 005 000	0,870,000		.28
1920. 1,061,000 415,000 253,000 2,440,000 2.30 1921. 785,000 173,000 98,000 960,000 1.22 1922. 815,000 242,000 245,000 2,201,000 2.70 Maryland:	1922	4,487,000	1,185,000	1,085,000	9,805,000	2, 20	. 28
1921 785,000 173,000 98,000 960,000 1.22 1922 815,000 242,000 245,000 2,201,000 2.70 Maryland:	ennsylvania:	000 F00 F	415 000	053 000	0 440 000	0.00	. 29
1922	1920				2,440,000		.15
Maryland:							.34
Maryland:	ly22	810,000	242,000	245,000	2,201,000	2.10	.01
1000 76 000 114 000 0 000 100 000 9 50	1920	76,000	114,000	9,000	190,000	2, 50	. 31
1921 65,000 109,000 16,000 238,000 3.66			100,000	16,000	238,000		. 46
	1000	65,000	109,000				. 56
West Virginia:	Jest Virginia	00,000	102,000	24,000	202,000	2.00	.00
1920. 60,000 86,000 16,000 211,000 3.57	1920	60,000	86,000	16,000	214,000	3, 57	. 45
1920. 60,000 86,000 16,000 214,000 3.57 1921. 40,000 48,000 9,000 120,000 3.00	1921	40,000					. 38
1922. 46,000 72,000 22,000 251,000 5.50	1922	46,000			251,000		.71
Ohio:	hio:	10,000	, 000	, 500		200	• • • •
1920		2.156.000	39,000	478,000	3,862,000	1.79	. 23
1921 1, 832,000 46,000 280,000 2, 283,000 1. 25	1921	1,832,000					. 16
1922. 2, 088, 000 64, 000 420, 000 3, 424, 000 1.64	1922	2 088 000			3,424,000		. 20

¹ I gallon of sirup taken as equivalent to 8 pounds of sugar.

2 Reported as "Sugar" (not "maple sugar"), but for States which are too far north to make cane sugar.

No beet sugar was made at this time.

MAPLE SUGAR AND SIRUP-Continued.

Table 349.—Maple sugar and sirup production, 1839-1922—('ontinued. BUREAU OF AGRICULTURAL ECONOMICS DATA—Continued.

Club and another	Trees	Sugar	Sirup	Total product in	Average	per tree.
State and year.	tapped.	made.	made. made.		As sugar	As sirup.
Indiana 1920. 1921. 1922. Michigan 1920. 1921. 1922. Wisconsin: 1920. 1921. 1921.	Number. 560,000 532,000 558,000 833,000 816,000 857,000 520,000 494,000 538,000	Pounds. 8,000 37,000 12,000 45,000 52,000 54,000 19,000 17,000 21,000	Gallons. 97,000 149,000 143,000 182,000 157,000 197,000 122,000 100,000 148,000	Pounds. 781,000 1,232,000 1,156,000 1,390,000 1,390,000 1,628,000 974,000 815,000 1,210,000	Pounds. 1. 40 2. 32 2. 07 1. 80 1. 60 1. 90 1. 87 1. 65 2. 25	Gallons. 0.18 29 26 22 20 24 23 21 28

Table 350.—Maple sugar and sirup: Farm price, 15th of month, 1916-1922.

Date	Sugar (cents per pound)						Strup (dollars per gallon)							
rate	1916	1917	1918	1919	1920	1921	1922	1916	1917	1918	1919	1920	1921	1922
			-											
Feb. 15	12 6 13.4 13.9 13.6 13.7	14.7 11.7 16 3 16 2 15.9	18 8 20 5 22 5 22 6 22.0	22 0 25.3 26 9 26 3 26.2	29.3 31.6 37 0 36 0 35 1	24 9 25 7 25 7 21 5 20 7	17.5 21 9 23 1 21.6 21.3	1.08 1.11 1.17 1 15 1 16	1.22 1 30 1.33 1.34 1.33	1.58 1.76 1.80 1.85 1.85	1.86 1.99 2.03 2.02 2.19	2.35 2.58 2.92 2.93 2.84	2 27 2.17 2.21 2.08 2.10	1.84 1.95 1.93 1.86 1.86

SORGHUM FOR SIRUP.

Table 351.—Sorghum for sirup: Acreage, production, and value, by States, 1921 and 1922, and totals, 1917-1922.

1000, 0.000 (0.000, 1017, 1000).										
State and year.	Thousands of acres.		Average yield, in gallons per acre.		Production (thousands of gallons).		Average farm price per gallon Dec. 1.		Farm value (thousands of dollars).	
_	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922
Virginia. West Virginia. North Carolina. South Carolina. Georgia.	13 8 32 21 37	13 8 30 21 30	83 95 94 90 94	94 105 98 83 83	1,079 760 3,008 1,890 3,478	1, 222 840 2, 940 1, 743 2, 490	90 100 78 68 40	85 100 80 61 55	971 760 2,346 1,285 1,391	1,639 840 2,352 1,063 1,370
Florida. Ohio. Indiana. Illinois. Wisconsin	1 4 12 10 2	1 4 11 9 2	120 80 80 88 70	130 62 85 72 60	120 320 960 880 140	130 248 935 648 120	50 100 100 99 140	52 105 95 94 110	60 320 960 871 196	68 260 888 609 132
Minnesota	2 8 28 2 5	2 7 24 2 3	110 84 86 86 86 81	75 90 80 83 84	220 672 2,408 172 405	150 630 1,920 166 252	100 106 88 103 92	105 99 85 95 88	220 712 2,119 177 373	158 624 1,632 158 222
Kentucky Tennessee Alabama Mississippi Louisiana	48 42 90 53 1	48 35 74 42 1	85 96 85 88 90	83 84 81 88 100	4,080 4,032 7,650 4,664 90	3,984 2,940 5,994 3,696 100	72 59 42 39 52	80 78 56 46 45	2,938 2,379 3,213 1,819 47	3, 187 2, 293 3, 357 1, 700 45
Texas Oklahoma Arkansas New Mexico	35 18 45 1	35 17 28 1	87 81 88 75	69 66 64 55	3,045 1,458 3,960 75	2,415 1,122 1,792 55	70 73 57 95	72 72 75 106	2,132 1,064 2,257 71	1,739 808 1,344 58
Total	518	448	88.0	81 5	45,566	36, 532	62.9	71.0	28,681	25, 946
1920 1919	536 487		80	9	49, 39,	505 413	106		52, 43,	943 683

SORGHUM FOR SIRUP-Continued.

Table 352.—Sorghum (for sirup): Forecasts of production, monthly, with preliminary and final estimates.

Year	July.	August	September.	October.	November production estimate.	Final estimate.
1918. 1919. 1920. 1921.	1,000 gallons 33,817 35,013 36,112 45,016 40,631	1,000 gallons 31,320 33,757 36,968 44,801 40,663	1,000 gallons. 29,430 34,011 38,525 46,854 38,464	1,000 gallons. 29,973 33,128 38,760 45,867 36,787	1,000 gallons 29,757 33,668 37,402 43,864 38,225	1,000 gallons. 33,387 39,413 49,505 45,566 36,532

TEA.

Table 353.—Tea. International trade, calendar years 1909-1921.

["Tea" includes tea leaves only and excludes dust, sweepings, and yerba mate. See "General note," Table 161.]

Country	Average,	1909–1913	19)19	19	920	19	21
Country.	Imports	Exports	Imports	Exports	'Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. British India	1,000 pounds 8,002 11 18,890 6,742 68 590	1,000 pounds. 267,887 189,016 197,997 46,675 23,640 35,823	1,000 pounds 15,014 2 10,756 4,974 116 415	1,000 pounds 375,390 208,561 91,149 117,007 23,009 28,519	1,000 pounds 11,466 1 6,069 6,730 155 540	1,000 pounds 270, 957 184,770 40,537 100,703 14,377 26,438	1,000 pounds. 11,581 1 6,387 6,704	1,000 pounds 349,361 160,732 57,358 77,518
PRINCIPAL IMPORTING COUNTRIES.								
Argentina Australa Australa Australa Australa Australa Australa Brish South Africa Canada Chile France French Indo-China Gormany Netherlands New Zealand Persia Russia Singapore United Kingdom United States Other countries	3, 890 35, 442 3, 424 5, 462 37, 927 3, 505 2, 806 3, 295 8, 964 11, 383 7, 542 9, 446 157, 704 6, 009 293, 045 98, 897 33, 635	(2) 3 62 1,145 23 45 125 866 2,575 4,661	3, 983 56, 857 7, 705 27, 026 5, 142 4, 579 2, 719 63, 710 8, 503 8, 006 464, 817 80, 963 20, 996	333 88 1,989 17,089 280 4,146	34,060 8 864 7,111 36,710 4,690 4,017 2,726 3,850 23,407 12,838 6,623 5,476 389,915 90,247 37,394	3 28 47 160 787 25 63 490 2,774	3 858 8, 573 35, 653 3, 036 2, 321 26, 697 6, 195 412, 848 76, 487 21, 723	3 74 5 195 43 2,033
Total	756, 669	770,604	786, 283	867, 560	684, 919	652, 338	620, 060	663, 182

¹ Two-year average.

² Less than 500.

³ Austria only.

COFFEE.

Table 354.—Coffee: International trade, calendar years 1909-1921.

[The item of coffee comprises unhulled and hulled, ground or otherwise prepared, but imitation or "surrogate" coffee and chicory are excluded See "General note," Table 161]

	Average,	1909-1913.	19	19	19	20	19	21
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports	Exports
PRINCIPAL EXPORTING COUNTRIES. Brazil	4,227 1 167 2 138	1,000 pounds. 1,672,282 27,780 104,398 27,515 54,149 85,951 61,943 8,263 48,991 19,033 62,830 111,326	1,000 pounds. 1,872 3,713	1,000 pounds 1,714,765 36,792 30,784 273,738 79,876 8,247 33,688 72,868 179,790	1,000 pounds. 5,655 2,080	1,000 pounds 1,524,478 19,407 137,223 207,685 68,292 4,622	1,000 pounds. 2,366	45, 69
PRINCIPAL IMPORTING COUNTRIES. Algentina. Austina-Hungary. Selgium. Buitsh South Africa. Inha. Denmark. Egypt. Finland. France. Germany. taly. Notherlands. Norway. Sussia. Singapore. Spain. Weden. Weden. Witzerland Juited Kingdom. Junted Kingdom. Junted Kingdom. Junted Kingdom. Junted States. Other countries.	28, 125 128, 304 111, 738 24, 703 24, 706 33, 102 15, 654 28, 624 245, 752 399, 965 58, 278 283, 633 29, 309 26, 000 6, 317 74, 486 25, 629 28, 581 907, 899 96, 646	33, 627 39 4 152 1, 757 458 189, 288 4, 700 9 24 62 241 5 44, 251 49, 225	37, 541 86, 861 18, 349 23, 278 62, 583 16, 004 21, 618 460, 749 80, 405 120, 738 70, 285 42, 391 86, 118 22, 534 48, 789 1, 373, 564 98, 956	11,978 53 239 758 28,234 130 107 100 71 5 34,352 32,229	4 6, 274 84, 469 29, 701 44, 425 44, 823 22, 530 14, 933 323, 254 90, 602 66, 509 133, 749 24, 833 25, 730 48, 519 98, 829 22, 777 27, 431 1, 207, 439 120, 632	4 242 3, 411 55 3 402 3, 408 1, 983 12 437, 551 27, 006 2, 355 2, 355 108 5 36, 737 17, 998	4 11, 909 105, 361 29, 759 46, 572 20, 722 27, 968 322, 420 105, 504 136, 567 29, 836 48, 219 89, 661 31, 583 105 1, 340, 980 86, 509	4 30 21, 54 1 3, 45 22 1, 15 66, 56 4 8 8 5 31, 57 15, 60
Total	2,614,854	2, 608, 347	2, 676, 425	2, 542, 037	2, 535, 240	2, 166, 869	2, 438, 242	2, 073, 80

¹ Four-year average. ² Three-year average.

³ One year only.
4 Austria only.

⁶ Chiefly from Porto Rico.

ROSIN.

Table 355.—Rosin: International trade, calendar years 1909-1921.

[For rosin, only the resinous substance known as "rosin" in the exports of the United States is taken. See "General note," Table 161]

Qt	Average,	1909–1913.	19	19	19	920	19	921
Country.	Imports	Exports	Imports.	Exports	Imports.	Exports.	Imports	Exports.
PRINCIPAL EXPORTING COUNTRIES. France. Greece. Spain. Spain. PRINCIPAL IMPORTING COUNTRIES.	1,000 pounds. 2,432 35 1,827	1,000 pounds. 118, 286 10, 423 20, 073 655, 520	1,000 pounds. 1,694	1,000 pounds. 107,319 5,989 28,748 338,696	1,000 pounds. 1,634 617	1,000 pounds. 129,007 10,303 26,855 326,012	1,000 pounds. 349 990	1,000 pounds 175,60 6,07 22,41 280,43
Argentina Austrialia Austrialia Austria-Hungary Belgium Brazil British India Canada Chile Cuba Denmark Dutch East Indies Finland Germany Italy Japan Netherlands Norway Rumania Russia Serbia Switzerland United Kingdom Other countries	10,073 73,991 6,732 5,001	1 45 1, 255 2, 205 32, 830 32, 830 144 50, 110 33 59, 366 31	34, 965 13, 420 32, 120 37, 945 687 23, 142 2, 533 5, 187 6, 602 13, 055 3, 124 33, 912 20, 038 8, 303 3, 857 2, 977 196, 131 9, 739	24 789 42 259 126	13, 727 2, 183 22, 886 36, 486 3, 936 28, 763 4, 313 3, 571 22, 262 3, 682 49, 255 36, 134 36, 686 9, 618 5, 411 3, 068	157 2 689 46, 822 24 67 514 315 64 23	2 5,014 109,762 16,628 1,073 20,905 1,550 2,176 16,658 429 55,280 18,019 7,416 1,188	47,545
Total	900, 441	950, 381	452, 831	500,390	498, 730	548, 206	355,329	539,030
	,							<u> </u>

¹ Four-year average. ² Austria only. ³ One year only. ⁴ Less than 500. ⁵ Three-year average.

TURPENTINE.

Table 356.—Turpentine (spirits): International trade, calendar years 1909-1921.

["Spirits of turpentine" includes only "spirits" or "foll" of turpentine and for Russia skipidar; excludes crude turpentine, pitch, and for Russia turpentine. See "General note," Table 161.]

a .	Average,	1909-1913.	19	019	15	920	16	21
Country.	Imports	Exports	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. France. Russia. Spain Umted States.	1,000 gallons. 48 273	1,000 gallons. 2,594 2,322 1,156 17,868	1,000 gallons 83	1,000 gallons. 1,765 1,360 10,672	1,000 gallons 85	1,000 gallons. 3,659 944 9,458	1,000 gallons. 18	1,000 gallons. 3,818 1,439 9,268
PRINCIPAL IMPORT- ING COUNTRIES. Argentina. Australia. Austra-Hungary. Belgium Canada Chile Germany Italy Netherlands New Zealand. Sweden. Switzerland. United Kingdom Other countries.	554 564 2, 581 1, 932 1, 175 198 9, 368 9, 368 9, 398 131 466 7, 782 1, 009	53 1,144 460 3 2,750 62 9	480 391 1,086 1,139 45 1,198 971 67 115 473 6,642 1,197	315 	538 1 19 1,580 962 267 1,252 749 917 93 112 550 6,752 1,528	18 1,558 18 3 12 271 236 485	1 205 2, 418 1, 088 67 444 1, 159 134 522 4, 281 664	1 27 1,5\forall 1,5\forall 1 9 11 259 158 256
Total	31, 200	28,943	13, 887	15, 205	15, 434	16, 661	11,000	16, 832

¹ Austria only.

² Less than 500.

INDIA RUBBER.

Table 357.—India rubber: International trade, calendar years 1909-1921.

[Figures for india rubber include "india rubber," so called, and caoutchouc, caucho, jebe (Peru), hule (Mexico), borracha, assaranduba, amabeira, manicoba, sorva, and seringa (Brazil), gomelastiek (Dutch East Indies), caura, ser nambi (Venezuela). See "General note," Table 161.]

a	Average,	1909–1913.	19	919	19	920	19	21
Country	Imports.	Exports.	Imports	Exports.	Imports.	Exports	Imports.	Exports
RINCIPAL EXPORTING COUNTRIES. Angola. Selgian Kongo. Solivia. Srazil. Seylon Dutch East Indies Secuado. French Guana. French Kongo. Fold Coast. Vory Coast. Camerun fexico. Foru. enegal. ingapore. liggii Sembilan	1 1,299 2 1 241 (3) 2 10 4 4 2,867	1,000 pounds 5,620 7,755 8,395 84 938 10,953 7,679 1,040 3 937 2,393 2,740 6,409 14,262 5 030 1,087 5 843 3 054 3,995 7,313		7,126 68		199,908	1,000 pounds. 3,867	164, 04
Perak elangor enezuela.		13,736 772	81	519	22 132	89, 242 89, 388	48	
RINCIPAL IMPORTING COUNTRIES. ustria-Hungary delgium anada 'iance ee many tel well etherlands ussia 'inted Kingdom inted Kingdom ther countries ther countries	6, 696 25, 891 3, 945 32, 704 42, 004 5, 381 10, 822 19, 131 43, 141 100, 180 8, 002	1,619 20,749 21,615 9,844 225 7,172 27,092	12, 389 19, 645 59, 627 23, 211 14, 001 95, 245 535, 940 42, 500	3, 441 20, 012 1, 050 7, 793 24, 469	5 3, 090 14, 120 26, 682 60, 042 26, 918 15, 000 27, 296 127, 614 566, 546 60, 567	5, 519 (8) 23, 588 254 1, 284 14, 954	5 4, 927 7, 140 18, 476 42, 030 9, 749 32, 657 94, 275 415, 283 63, 927	3, 33 8, 83 1, 28 30, 36
Total	302, 319	289,064	807, 295	459,070	1, 135, 405	990,078	692, 379	346,6

¹ Three-year average. ² One year only.

³ Less than 500. ⁴ Two-year average.

⁶ Austria only.

SILK.

Table 358.—Production of raw silk in undermentioned countries, 1909-1921. [Estimates of the Silk Merchants' Union, Lyon, France.]

Country.	Average, 1909-1913.	1916	1917	1918	1919	1920	1921, pre- liminary
Western Europe Italy France Spain Austria Hungary	Pounds 8,524,000 992,000 182,000 } 726,000	Pounds, 7, 963, 000 485, 000 198, 000 187, 000 143, 000	Pounds. 6, 217, 000 452, 000 154, 000 188, 000 143, 000	Pounds. 5,942,000 529,000 165,000 188,000 143,000	Pounds. 4,079,000 408,000 154,000 165,000 110,000	Pounds, 7,330,000 551,000 176,000	Pounds 7,066,000 430,000 132,000
Total	10, 424, 000	8, 976, 000	7, 154, 000	6, 967, 000	4, 916, 000	8, 057, 000	7,628,000
Levant and Central Asia	6,186,000	2, 293, 000	2, 293, 000	2, 293, 000	1,764,000	21,653,000	$\overline{21,213,000}$
Far East: Chma— Exports from Shanghai Exports from Canton Japan— Exports from Yokohama British India— Exports from Bengal and Cashmere Indo-China— Exports from	12, 576, 000 5, 146, 000 21, 898, 000 428, 000	10, 340, 000 5, 346, 000 29, 431, 000 254, 000	10, 097, 000 5, 170, 000 34, 050, 000 232, 000	10, 251, 000 4, 134, 000 31, 416, 000 242, 000	8, 598, 000 5, 071, 000 32, 188, 000 220, 000		8, 411, 000 5, 578, 000 36, 376, 000 187, 000
Saigon, Haip- hong, etc	1 31,000	7,000	11,000	11,000	11,000	33,000	41,000
Total	40,079,000	45, 378, 000		46, 054, 000		36, 210, 000	50, 596, 000
Grand total		56, 647, 000	59, 007, 000	55, 314, 000	52, 768, 000	45, 920, 000	59, 437, 000

WOOD PULP.

Table 359.—Wood pulp: International trade, calendar years 1909-1921. [All kinds of pulp from wood have been taken for this item, but no pulp made from other fibrous substances. See "General note," Table 161.]

	i		1		1		T	
0	Average,	1909-1913	19	19	19	20	19	21
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports	Imports.	Exports.
PRINCIPAL EXPORT- ING COUNTRIES. Austria-Hungary. Canads. Finland. Germany Norway. Sweden	1,000 pounds. 13,366 9,481 526 112,660 2 64,911 9,515	1,000 pounds. 205, 364 606, 203 236, 881 384, 709 1, 437, 078 1, 822, 023	3	1,000 pounds. 1,418,259 304,664 1,123,677 1,980,778	1,000 pounds. 111,839 42,282 (2) 143,027 44,923 24,494	1,000 pounds. 1 55,850 1,639,970 424,441 28,573 1,318,287 2,220,331	1,000 pounds. 1 22,876 34,710	1,000 pounds. 1 68,069 1,054,446 422,386 792,827 1,161,639
PRINCIPAL IMPORT- ING COUNTRIES.								
Argentina. Belgium Denmark France Italy Japan Portugal Russia.	52, 016 291, 254 110, 866 836, 899 179, 267 79, 260 18, 662 56, 072	80, 647 1, 720 485 4, 144 52, 735	42, 856 121, 205 74, 010 607, 071 87, 257, 90, 901 4, 759	3, 186 88 1, 892	258, 458 149, 984 794, 680 157, 602 104, 849	34, 572 668 269	144, 929 42, 314 339, 661 86, 022 87, 527	10, 855 1, 078 2, 748 2, 558
Spain Switzerland United Kingdom United States Other countries	92,770 21,059 1,891,006 1,007,239 10,134	13, 072 24, 309 69, 137	84, 830 29, 272 2, 101, 613 1, 272, 033 99, 226	20, 570 80, 114 188	145, 363 20, 544 2, 446, 535 1, 812, 595 148, 210	27,180 112 63,932 678	52, 091 7, 840 1, 315, 227 1, 394, 201 56, 072	21,300 688 56,965 1,017
Total	4, 856, 963	4, 938, 507	4, 825, 360	4, 933, 416	6, 305, 385	5, 814, 863	3, 583, 470	3, 596, 576

For three years, 1911–1913.
 Comprises Hungary, Czechoslovakia, Yugoslavia, Rumania, Bulgaria, Greece, Saloniki, Adrianople Crete, the Caucasus, Anatolia (Brussa Region), Turkestan, Central Asia, Syria, Cyprus, and Persia.

LIVE STOCK, 1922.

FARM ANIMALS AND THEIR PRODUCTS.

LIVE STOCK, ALL CLASSES.

Table 360.—Live stock in the undermentioned countries.*

Note —In order to secure comparable totals, that pie-war estimate nearest to 1913 giving statistics for each class of animal is compared with the latest estimate available giving similar data.

[Census returns in italics, other returns in roman.]

United States: On farms. Jan. 1,1914 56,592 58,933 49,719 1 2,915 20,962 4,449 Not on farms and not on farms and not on farms) Apr. 15,1910 Jan. 1,1920 1 398 1 (4) (4) (4) 2 5 20 Hawaii (on farms and not on farms) Apr. 15,1910 Jan. 1,1920 1 398 1 (4) (4) 2 5 20 Jan. 1,1920 1 398 451 105 1,706 378 Hawaii (on farms and not on farms) Apr. 15,1910 149 398 1 (4) (4) 2 5 20 Jan. 1,1920 1 398 451 105 1,706 378 Porto Rico (on farms and not on farms) Apr. 15,1910 316 398 451 105 105 105 105 105 105 105 105 105 1	Thou-sands. 1106 272 17 15 (4) (4) 1 1 (4) 1 (4)
United States: On farms. Jan. 1,1914 Jan. 1,1923 Apr. 16,1910 Jan. 1,1920 Alaska (on farms and not on farms) Lan. 1,1920 Jan.	sands. 1 106 2 72 17 15 (4) (4) 3 2 1 1 1
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	3 2 1 1
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2 1 1
and not on farms). $A pr. 15,1910 316 106 6 49 58 5 7 1,1920 279 137 4 58 57 7 12 12 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 $	1
On farms	
Algeria Sept., 1913 1,108 112 8,811 3,848 216 193 170 190 170	272
Argentina June 1,1914 25,867 27,721 2,901 43,225 4,325 8,324 565 9,293 611	260 284
Austraha Dec. 31,1913 11,484 801 85,057 262 2,523 8	
Dec. 31,1920 13,500 764 77,898 2,416	
Austria7Dec. 31,1910 9,169 1 6,432 2,428 1,257 1,803 21 Apr., 1920 2,114 1,189 368	53
Azores and Madeira 1900 89 93 87 38 2 3	9
Bahamas	
Barbados. 1913 2 9 10	
Basutoland 1911 437 1,369 989 88 4	
Bechuanaland Protectorate 1911 324 358 2	
1921 426 120 238 2	6
Belgium. Dec. \$1,1910 1,880 1,494 185 218 \$17 \$ 1921 1,515 76 8 126 8 33 222	8
Bermuda	
Bolivia	173

^{*} Figures compiled from reports received up to November 23, 1922, except for the Umted States.

1 Census 1920.

2 Census 1920.

3 Reindeer.

4 Less than 500.

Dogs used as work animals, mules less than 500.

6 Unofficial.

7 Old boundaries.

Table 360.—Live stock in the undermentioned countries*—Continued.

					ſ	1				
Country.	Date	e.	Cattle.	Buffa- loes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
Bosma-Herzegovina 1	{Oct. 10 Nov. 10), <i>1910</i>), 1910	$Thou-sands. \ 1,309$	Thou- sands.	Thou- sands. 527	Thou- sands. 2,499	Thou- sands. 1,393	Thou- sands.	Thou- sands.	Thou- sands
Brazil	19	12-13	30,	705	18,401	10,550	10,049	8,290	3,2	208
	Sept. 1	,1920	34,271		16,169	7,933	5,087	5,254	1,8	365
British Guiana	:	3 1913 1921	81 123	(2) 12	14 12	18 21	14 12	$\frac{1}{2}$	2 2	6
British Southwest Africa (former Ger- man Southwest Africa)		1913	206	4 1	8	555		16	1:	1
		5 1920	400			2,2	225			
Bulgaria	Dec. 31	, <i>1910</i> 1920	1,603 854	415 150	5 27	8,632	1,459	<i>4</i> 78 177	12	117
Cape Verde Islands (Portuguese)		1914 1916	8 9		14 17	4 6	30 38	1	1 1	10 17
Canada	June 30 June 30	, 1913 , 1921	6,656 10,206		3, 148 3, 905	2,129 3,676		2,866 3,814	10	
Cayman Islands (Butish)		1913 1919	2 1		1 1		(2) (2)	(2) (2)		· · · · · · · · · · · · · · · · · · ·
Ceylon	ē	1913 5 1920	1,4 1,5		86 59	90 57	203 156	5 3		•••••
Chile		1913 1919	2,084 2,163		184 292	4,567 64,500	288 460	489 392	34 51	30
China	,	1914 7 1916	21, 997 15, 973		76, 819 44, 711	22, 186 22, 232	400	4, 934 4, 401		36 4,394 3,660
Colombia		1916	4, 832		1, 139	246	232	858	324	168
Costa Rica		1915	347		76	(2)	(2)	65		
Croatia-Slavonia 1	Mar. 24	,1911	1,1	35	1, 164	850	96	350	3	
Cuba	Dec. 31	,1913 1918	3, 141 3, 966					625 779	46 65	2
Cyprus	Mar. 31	, 1913	61		40	⁸ 256	253		69	
		1921	52	•••••	17	266	169	4	5	
Czechosolvakia	Dec. 31	, 1920	4, 213	• • • • • • • •	2,015	976	1, 174	581	•••••	
Denmark	July 15 9 July 15	, 1914 , 1922	2, 463 2, 525		2, 497 1, 899	515 442	41 44	<i>567</i> 576		
Dominican Republic (Santo Domingo)	5 May 15		647	• • • • • • • •	674		706	163	65	
Dominica (British)		1903 1919	1			1		1		
Dutch East Indies: Java and Madura	Dec. 31	1915	3,243 3,699	2, 541 2, 128	66	739	2,268	304 296		
Outer possessions	Dec. 31	′	712 641	959	600		309	323 307		
			-			•				

^{*} Figures compiled from reports received up to November 23, 1922, except for the United States.

¹ Old boundaries.

² Less than 500.

Res Not including cattle of interior prairies estimated at 30,000 head.
Camels.
Unofficial.
In addition there were 42,019 llamas and alpacas.
That of the following Provinces are lacking: Ssu-Chuan, Kwantung, Yunnan, Kweichow, and part of Hunan.

⁸ One year of age and over.

Table 360.—Live stock in the undermentioned countries*—Continued

	1	1		1			,		
Country.	Date	Cattle	Buffa- loes.	Swine	Sheep.	Goats.	Horses.	Mules.	Asses.
Dutch West Indies: Curacao and de- pendencies	1913 1918	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands. 46 70	Thou- sands.	Thou-sands.	Thou- sands.
Surinam or Dutch Guiana	1913	8		5	(1)	3	(1)	(1)	1
	1918	10		3		2		1	
Egypt ²	1914 SeptOct.1921	601 596	568 646		816 986	331 424	40 34	22 19	632 623
Esthonia 3	1920	443		261	530		165		
Falkland Islands (British)	1913 1919	8 7		(1) (1)	698 670		4 3		
Faroe Islands (Danish)	1914 1919	4 4		(1)	112 69	(1) (1)	1 1		
Fiji Islands (British)4	1913 1920	49 57		2	3 1	15		7 10	
Finland	Sept. 1,1920	1,605 1,812	⁵ 127 ⁶ 53	422 370	1,330 1,032	11 13	366 372		
France 6	Dec. 31, 1913 Dec. 31, 1921	14,788 13,343		7,036 5,166	16, 131 9, 600	1, 435 1, 361	3,222 2,706	188	356
French Equatorial Africa (French Congo)	1918	400	⁷ 25	150	1,000	1,500	2,706	186	296
French establishments in India	1913 1920	5 4			13 23	24 24			
French Guiana	1916	6	(1)	7	(1)	(1)	(1)		
French Indo - China:	1914	215						- <i>-</i>	
Cochin-China	1914 8 1920	109	242 435	709 277	8363		12		
Germany 6	Dec. 1,1913 Dec. 1,1921	20, 994 16, 840		25, 659 15, 876	5, 521 5, 882	3, 548 4, 337	3,227 93,683	27	6
Gold Coast (British)	1920	6 8		(1)	15	3	1		
Grenada (British)	1911 1918	5		····· <u>ż</u>	4	5	2	i	i
Greece	10 1914	300	25	227	3, 547	2,638	149	80	133
	1920	659	9	416	5, 811	3, 418	201	36	64
Guam	1913	6							
Guatemala	1913	557		188	514	11	64	33	
	8 1920	700		100	30	0	15	0	
Honduras, Republic of.	1913-1914 11 1919	489 103		180 23	(¹) ⁵	(1) 23	68 13	20 3	(¹) ⁴
Hongkong (British)	1913 1919	$\frac{1}{2}$				(1)	(1) (1)		

^{*} Figures compiled from returns received up to November 23, 1922 except for the United States.

1 Less than 500.

2 In addition there were 118,414 camels in 1914 and 145,008 in 1921.

3 Excluding the district of Petsen.

4 Animals owned by Europeans.

5 Reindeer.

⁶ Alsace-Lorraine included with Germany in 1913 and with France in 1921. 7 Camels.

⁸ Unofficial. 9 Frelieiva of army horeas

Table 360.—Live stock in the undermentioned countries x—Continued.

	1	ī	<u></u>	·			1		
Country	Date.	Cattle	Buffa- loes.	Swine.	Sheep.	Goats	Horses.	Mules.	Asses.
Hungary	¹ Apr 30,1913 1920	Thou- sands. 6,045 2,148	Thou- sands. 162	Thou- sands. 6,825 3,320	Thou- sands. 6,560 1,817	Thou- sands. 269	Thou- sands. 2,005 718	Thou- sands.	Thou- sands. 16
Iceland	1913 1919	27 23			635 583	$\frac{1}{2}$	47 52	• • • • • • • • •	
India (British)	1913-1914 Dec. to A pr.,	1	2 18, 214		′ ′			3 79	-, -00
India (native States)	1919–20 1913–14	117,428 2 12,254	1		21,984 8,3	24, 134 126	1,699	75	1,372
	Dec. to A pr., 1919-20	24,877	6,507		12,073	7,312	432	3	329
ltaly	Mar. 19, 1908 Apr. 6, 1918	6,199 6,240	19 24		11,163 11,754	2,715 3,083	956 4 990	388 497	850 949
Ivory Coast (French)	1918	5 3		11	126	168	1		(5)
Jamaica	1913 1919	116 170		31 6 32	10 6 12	6 30	53 6 50		
Japan	Dec. 31, 1913 Dec. 31, 1920	1,389 1,376		310 528	3 9	89 133	1,582 1,468		
Chosen (Korea)	Dec. 31, 1913 Dec. 31, 1920	1,211 1,490		761 977	(⁵)	10 21	51 55	1 2	13 10
Formosa (Taiwan)	Dec. 31, 1913 Dec. 31, 1919	1 2	7 418 7 4 02	1,322 1,313	(b) (6)	129 99	(2)		
Karafuto (Japanese)	Dec. 31, 1913 Dec. 31, 1919	1		1			2		
Kwantung (leased Province of Japan): Within the leased Province Outside the leased Province	Dec. 31, 1913 Dec. 31, 1913 Dec. 31, 1913 Dec. 31, 1919	31 35 (6)		60 85 6 6	2 1 (6)	12 8 (⁵) (⁵)	2 3 1 2	12 13 1	27 30 (6)
Kenya Colony and Protectorate (Brit- ish East Africa)	Mar. 31, 1913 June 30, 1920	780 2,512	8 103	3 9	6, 500 2, 528	»8,579	1 1	·····í	3.5
latvia	1922	810		402	1,162		303		
Labia (Italian)	1910	45	8 140		996	680	34	(5)	39
Lithuania	⁹ 1921	780	1,262		1,0	36	370		
Luxemburg	Dec. 1,1913 Dec. 4,1919	102 89		137 89	<i>5</i> 5	10 13	<i>19</i> 18	(6)	(5)
Madagascar	¹⁰ 1915 ⁹ Dec. 31, 1921	6,606 7,829		666 11 457	299 11 166	173 11 116	11 3	(11 6)	
Mal(a	Mar. 31,1913	4		4	15		*****************	9	
	Mar. 31, 1920	3		3	18	17	2		5

^{*} Figures compiled from reports received up to November 23, 1922, except for the United States.

1 Old boundaries.

2 Buffalo calves included with cattle.

3 Exclusive of Bengal.

4 Including 855 in transit and 186,328 belonging to the Royal army.

5 Less than 500.

6 Year 1917.

7 Includes zebus.

8 Cameles.

⁷ Includes zerous.
8 Camels.
9 Unofficial
10 Enumerated from tax returns.
11 Data for preceding year.

Table 360.—Live stock in the undermentioned countries*—Continued.

	1			1		,			
Country.	Date.	Cattle.	Buffa- loes.	Swine	Sheep.	Goats.	Horses.	Mules.	Asses.
Mauritius 1	1913	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.
	1920	17		4	1	6		1	
Mexico Morocco:	June 30, 1902 2 1921	5,142 2,304		616 1,913	3, 424 293	4,206 31,254	859 635	<i>884</i> 133	288 168
Eastern	1915-1916 May-June,	22	4 21		664	285			
Western	1915–16	856	4 63	29	4,054	1,227	141	1	251
70 to	1921	1,300	4 86	130	6,600	2,000	65	54	420
Mozambique (Portuguese East Africa)	1913 1916	25 38		15 24	10 10	29 34			
Netherlands New Caledonia	June —, 1913 Mar. —, 1921	2,097 2,063 130	•••••	1,350 1,519 25		232 272 25	334 364		
Newfoundland (Brit-	1911	32		19	75	15	13	•••••	
New Zealand									
New Zearand	Apr. —, 1911 Jan. 31, 1922	2,020 3,273		<i>349</i> 380	23,996 22,222	6	404 332	(5	')
Norway	Sept. 30, 1914 Dec. 31, 1920	1, 146 1, 095		228 127	1,327 957	237 178	182 216		
Nyasaland Protectorate	Mar. 31, 1913 2 1920	63 89		22 19	23 42	138 138		(5) (5)	
Palestine	² 1921		39	•••••	262	272		•••••	
Panama	1916	200		30		5	15	2	
Papua (territory of British)	1913 1919	2		(5) (5)	(⁵)		(⁶)		
Paraguay	Dec. 31, 1918	5, 249 5, 500		61 87	600 600	87 93	478 490	17 19	18 20
Peru	² 1921	250			6 10	, 050	30	50	
Philippine Islands	Dec. 31, 1913	418	7 1, 047	2, 087	104	528	179		
	² 1920	761	⁷ 1, 464	3, 639	196	822	26	9	
Poland 8	Summer,1913	2,011 7,895	(5)	491	683	9	1, 116	(5)	(5)
Portugal	Sept. 30, 1921 Oct. —, 1906 Mar. —, 1920	703		5, 171 1, 111	2,178 3,073	1,034	3 , 2 01 88	58	144
Rhodesia: Southern		741		921	3, 851	1, 493		10	0
DOUMETH	Dec. 31, 1914	748		9 13	324	675			
Northern	Dec. 31, 1921 1912	1, 763 255		9 27	9 53	9 19	93	92	9 10
Rumania	11 1911	2, 6	67	1, 021	5, 269	187	825	4	
İ	2 1921	5, 521	200	3,089	11, 195	574	1,687	2	11

Figures compiled from reports received up to Nov. 23, 1922, except for the United States.

Animals on sugar estates only.

2 Unofficial.

3 In addition there were 216,440 designated as "sheep and goats."

⁴ Camels.

b Less than 500.
c Includes 50,000 vicunas.
c Caraboas only.
c Pre-war figures are for former Russia or Congress Poland, while postwar estimate gives the number of livestock within the Polish frontier in 1921, previous to a decision being reached concerning Upper Silesia.
c Animals owned by Europeans.
Animals owned by natives only.

¹¹ Old boundaries.

Table 360.—Live stock in the undermentioned countriesx—Continued.

Market property and the second									
Country	Date.	Cattle	Buffa- loes.	Swine	Sheep.	Goats.	Horses.	Mules.	Asses.
Russia, including Ukraine and Northern Caucasia	1 Summer,	Thou- sands. 34, 768	Thou- sands. 2 605	Thou- sands 14, 316	Thou- sands. 46,885	Thou- sands. 1,222	Thou- sands. 24,491	Thou- sands 6	Thou- sands
Asiatic Russia	1913. 8 Summer, 1913.	15,609	· · · · · · · · · · · · · · · · · · ·	2,037	33, 237	4, 112	10, 239		
Russia and Ukraine (Soviet)	1921	38, 132		13, 501	47,	157	23, 670		
Salvador	1906	284		123	21		74		
St. Helena (British)	1911	1		(4)	4	1	(4)		
St. Lucia (British)	1914 1916						1 1		
Senegal	5 1919	417							
Serbia	Dec. 31, 1910	957	7	866	8,819	631	153	1	
Shetland Islands	1919	14		(4)	141		5		
Seychelles Islands (British)	1913	1		6	(1) (4)		(4) (4)		
Siam	Jan. 1, 1919	2, 337	2, 120	3	(4)		105		
Sierra Leone (British).	Mar. 31, 1920 1910	2,621	2, 508 (4)	750 1			6 133 (4)		
Somaliland (Italian)	Feb. 1,1920	1,246	7 2, 101	1,666			11		
Spain	1913 1921	2,879 3,718		2,710 5,152	16, 441 20, 522	3, 394 4, 298	542 722	948 1, 2 95	849 1,138
Straits Settlements and Labuan	1913 1919	46 67		158 267			2 2		
Swaziland (British)	1913 1920	73 230		9		70 250	1 1	(4)	<u>2</u>
Sweden	Dec. 31, 1913	2, 721	2 276	968 717	988	71 133	596 716		
Switzerland	June 1,1919 Apr. 21,1911 Apr. 21,1921	2, 721 2, 551 1, 443	*270	570	1,564 161 244	341 329	144 134	8 4	2
Tanganyika Territory (former German		1,425		639		-	194	4	1
East Africa)	5 1912	3, 994			6,4	140		•••••	
Trinidad and Tobago.	1913 1919	13 13		9 11	5		5		
Tunis 9	Dec. 31,1913 1921	217 488		17 18	729 2,038	505 1,114	37 73	23 17	95 4
Turkey (European and Asiatic)	1913 1919	10 3, 835 10 3, 740	11 2,697 11 378		18,722 11,200	16, 463 2, 065	711 630	145 85	1,374 825
Turks and Caicos Islands (British)	1913 1919	1 1		(4) (4)	(4) (1)		• (4) (4)		
Uganda Protectorate	1 2 1913 1919	775		(4)	537 218		(4)		
Upper Senegal and Niger (French)		1				2,368	68	(4)	134

^{*} Figures compiled from reports received up to Nov. 23, 1922, except for the United States.

1 Poland excluded.

2 Reindeer.

<sup>Reindeer.
30 governments of the Caucasus, Central Asia, and Siberia.
Less than 500.
Unofficial.
In addition there were 6,294 elephants.
Camels.
Data for preceding year.
Enumerated from tax returns.
Excludes territories of Mesopotamia, Palestine, Syria, and Arabia
Oxen included.</sup>

Table 360.—Live stock in the undermentioned countries*—Continued.

Country	Date	Cattle.	Buffa- loes.	Swine.	Sheep.	Goats.	Horses.	Mules.	Asses.
Union of South Africa United Kingdom	Dec. 31,1911 Apr. 30, 1921	Thou- sands. 5,797 8,557		Thou- sands. 1,082 915	Thou- sands. 30,657 31,730	Thou- sands. 11,763 7,837	Thou- sands 719 920		Thou- sands. 337 722
England and Wales 2 Scotland Ireland	June 4,1913 June 4,1921 June 4,1913 June 3,1922 1913 June 1,1921	5,757 5,553 1,247 1,145 4,933 5,197		2,114 2,517 132 150 1,060 977	13,907 6,801 6,671	246		30	243 230
Uruguay	1908 Apr. 20,1916	8,193 7,802		180 304			556 555		
Venezuela	1912 1920	2,004 2,078	•••••	1,618 512	177 113	1,667 2,155	191 1 6 8	89 55	313 200
Yugoslavia	Jan. 31,1921	4,960	51	3,373	7,011	1,553	1,069	18	84
Grand totals: 8 Pre-war Recent			4 30, 085 5 43, 395						

^{*} Figures compiled from reports received up to Nov 23, 1922, except for the United States 1 Unofficial.

¹ Unofficial.
² Including the Isle of Man and Channel Islands.
³ Totals include figures only for countries having comparable data. In order to include in the grand totals the territories formerly belonging to Russia, the figures for Russia or Congress Poland and Russia (European and Asiatic) for 1913 have been added in the pre-war totals, while the most recent estimates available for Soviet Russia (including Soviet Ukraine), Poland (1921 boundaries including some former German and Austrian territory), and the Balkan States; Esthonia, Latvia, and Lithuania have been included in the postwar totals. Figures for Czechoslovakia and Yugoslavia are included in the total of recent estimates, since they were included in the pre-war estimates in the countries to which they formerly belonged.

included with horses and as "horses, mules, and asses," and "norses and mules," and "mules and asses" 2,900,000 designated as "horses, mules, and asses," and "horses and mules," and "mules and asses" included with horses.

POULTRY.

Table 361.—Poultry: Number of different kinds in the undermentioned countries 1 [Census returns are in italies; other returns are in roman]

Gumea fowls. pigeons, Total Country Date Chickens. Turkeys. Ducks. Geese and poultry. undesignated poultry. Thou-Thou-Thou-Thou-Thou-Thou sands. sands. sands. sands. sands sands. 295,865 372,825 280, 341 359, 587 412, 000 United States..... A pr. 15,1910 3,689 3,627 2,907 4,482 2,939 4,496 3,904 1,1920 1,1921 1,1923 Jan. 2,818 Jan. 428,000 Porto Rico 15,1910 599 Apr. 46 57 669 1,1920 599 8 ż 678 Austria... Dec. 31,1910 23, 114 1,771 1,990 1,269 1,601 26,672 35,981 647 Bulgaria ... Dec. 31,1900 4,045 200 134 373 4,752 Mar. 31, 1901 16,651 585 291 396 17,923 31,793 $\tilde{J}unc$ 29,778 28,287 34,340 1,1911 868 527 630 1920 806 651 762 30,506 37,181 1921 1,199 762 880 Denmark. 1909 12,727 16,323 12,288 9,884 12,134 14,395 17,803 11,816 792 15, 140 12, 288 9, 884 12, 134 1914 1,021 162 12, 1917 15, 1918 July July July 15, 1919 July 15, 1920 15, 1921 14, 395 17, 803 2 July 1,1920 Finland. Sept. 879 2, 1912 1, 1919 Dec. 82, 702 51, 023 60, 953 82,702 44, 282 53, 057 60, 320 Dec. 2,332 2,371 2,025 4,408 Dec. Dec. 1, 1920 1, 1921 5,525 5,630 67, 975 3,794 1,453 3,794 1918 4, 453 5,073 5,073 19, 533 19, 152 20, 216 22, 846 26, 060 25, 092 25, 027 Japan..... 19,870 19, 870 19, 485 20, 581 23, 218 26, 450 25, 466 25, 433 1914 1915 333 335 1916 372 1917 390 1918 374 1919 1920 24,994 25, 404 Chosen (Korea)..... 1913 4, 191 4, 194 4, 110 4, 278 1914 4, 110 4, 278 4, 400 1915 1916 4,400 1917 4, 567 4, 567 4, 913 1918 May-June,1904 May-June,1910 May-June,1921 4, 935 9, 778 9, 661 4, 935 9, 778 9, 661 New Zealand..... 2,784 3,215 3,141 3, 191 3, 693 3, 468 3, 991 1906 282 329 221 1911 98 45 62 1916 57 47 1921

618,000 in 1921.

¹ No data available for Argentina, Australia, Belgium, Brazil, Chile, China, France, Hungary, India, Italy, Poland, Rumania, Russia (European), Russia (Asiatic), Serbia, Spain, Switzerland, Tunis, Uruguay, Venezuela. Figures for other countries compiled from reports received up to November 15, 1922, except for the United States.

² Includes incorporated South Jutland provinces where the poultry amounted to 408,000 in 1920 and

POULTRY-Continued.

Table 361.—Poultry: Number of different kinds in the undermentioned countries 1—Con.

Country.	Date.	Chickens.	Turkeys.	Ducks.	Geese.	Guinea fowls, pigeons, and undesig- nated poultry.	Total poultry.
Norway	² Sept. 30, 1907 ² Sept. 30, 1917 Jan. 1, 1918	Thou- sands. 1,390 1,860 1,668	Thou sands.	Thou- sands 8 6 4	Thou- sands. 10 12 5	Thou- sands.	Thou- sands. 1,411 1,883 1,680
Sweden	June 1,1917 June 1,1918 June 1,1919	6,035 4,775 4,829	5 4 4	23 15 17	17 18 21		6,080 4,812 4,871
Union of South Africa 3	1911 May 5,1918 Apr. 30,1919 Apr. 30,1920	9,381 8,436 4,868 4,195	269 218 244 163	612 495 221 236	272 271 368 192		10,534 9,420 5,701 4,786
United Kingdom: England and Wales *.	June 4,1908 June 4,1913 June 4,1921	28, 249 29, 026 24, 816	628 652 445	2,669 2,188 2,391	686 577 517		32, 232 32, 443 28, 169
Ireland 5	1911 1912 1913 1914 1915 1916 1917					25, 448 25, 526 25, 701 26, 919 26, 089 26, 473 22, 245 24, 424	25, 448 25, 526 25, 701 26, 919 26, 089 26, 473 22, 245 24, 424
Yugoslavia	1921					15, 076	15,076

¹ No data available for Argentina, Australia, Belgium, Brazil, Chili, China, France, Hungary, India, Italy, Poland, Rumania, Russia (European), Russia (Asiatic), Serbia, Spain, Switzerland, Tunis, Uruguay, Venezuela. Figures for other countries compiled from reports received up to Nov. 15, 1922, except for the United States.

2 Rural districts only.

8 Years 1919 and 1920 exclude native locations, reserves, also urban areas; numbers in native locations and reserves on Apr. 30, 1918—Chickens, 2,942,578; ducks, 81,946; geese, 17,950; turkeys, 17,874.

4 The agricultural schedule for 1921 included an inquiry as to the number of poultry on farms on June 4. Similar inquiries were made in 1908 and 1913.

5 It was found impracticable to make an estimate of the number of poultry in 1919 and 1920, but the returns indicated an increase.

HIDES AND SKINS.

Table 362.—Hides and skins: International trade, calendar years 1909-1921.

GENERAL NOTE.—Substantially the international trade of the world. It should not be expected that the world export and import totals for any year will agree. Among sources of disagreement are these (1) different periods of time covered in the "year" of the various countries; (2) imports received in year subsequent to year of export, (3) want of uniformity in classification of goods among countries, (4) different practices and varying degrees of failute in recording countries of origin and ultimate destination, (5) different practices of recording reexported goods; (6) opposite methods of treating free ports, (7) clerical errors, which, it may be assumed, are not infrequent.

The exports given are domestic exports, and the imports given are imports for consumption as far as it is feasible and consistent so to express the facts. While there are some inevitable omissions, on the other hand, there are some duplications because of reshipments that do not appear as such in official reports. For the United Kingdom, import figures refer to imports for consumption, when available, otherwise total imports, less exports, of "foreign and colonial merchandise."

Occupations	Average,	1909-1913.	19	919	19	20	1921		
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	
PRINCIPAL EXPORTING COUNTRIES. Argentina	1,000 pounds. 207	1,000 pounds. 293,950 83,252	1,000 pounds.	1,000 pounds. 299,082 134,964	1,000 pounds.	1,000 pounds, 136,967 90,744	1,000 pounds.	1,000 pounds. 210,158 99,700	
British India. British South Africa. China. Chosen (Korea)	9 217	169,857 51,159 72,751 4,914	13,234 2,566 3,754	196, 286 73, 867 94, 707	10,585 1,247 3,222	91,971 51,766 68,523	8,010 130 4,618	46,157	
Chosen (Korea) Cuba. Denmark. Dutch East Indies Egypt.		14,293 21,998	5,638 345	13,101 12,135 32,176 8,944	4,176 457	5,546 9,606 17,102 5,065	6,137 371	9.899	
Egypt. Mexico. Now Zealand. Peru. Switzerland. Uruguay. Venezuela.	752 6,659	25,577 6,195 22,866 71,105 9,764	1,519	32,727 7,351 4,324 61,341 16,129		3,955 4,102	4,379		
PRINCIPAL IMPORTING COUNTRIES.									
Austria-Hungary Belgium Canada Finland France Germany Groece Haly Japan Netherlands.	180,930 46,820 10,717 155,508 440,200 5,770 53,524 6,321 73,691	79,265 117,213 45,469 7,136 131,041 152,373 2,283 48,428 710 67,656	30,647 37,543 9,506 151,314 8,092 92,990 22,575 31,483 11,421	6,707 6,304 48,516	26,517 54,192 33,772 4,357 111,179 98,082 7,831 55,721 25,323 40,709	2 860 17,494 33,501 124 54,670 1,080 3,629 17,573	2 15,260 73,204 25,853 6,365 73,346 8,164 47,567 23,919 51,302 5,962	21,004 41,431 36,716 2,661 92,050 5,181 47,779 47,379 8,822	
Norway	7,223	13,852 3,121 2,876 96,351	5,335 163	5,172 3,836	6,061 232	6,608	5,962	8,822	
SingaporeSpainSwedenUnited KingdomUnited StatesOther countries	9,332 19,119 25,662 107,350 514,249	6,436 17,457 24,130 38,100 25,432 195,861	35,077 26,648 148,993 744,836 29,325	14,807 3,586 7,390 24,924 145,132	4,760 30,049 26,226 121,678 510,240 21,217	3,723 6,806 9,120 17,069 17,402 104,657	17,442 21,925 73,773 348,047 3,210	11,738 21,836 17,933 30,577 38,247	
Total	1,959,521	1,991,355	1,416,031	1,365,093	1,182,338	896,676	819,420	986,541	

^{1 4-}year average.

² Austria only.

HIDES AND SKINS-Continued.

Table 363.—Hides and skins—United States imports, 1910-1922.1

	1				760, 1910	1000.	
***	Buffalo	Cali	skins	Cattl	hides	Goa	tskins.
Year.	hides, dry.	Dıy.	Green or pickled.	Dry.	Green or pickled.	Dry.	Green or pickled.
1910. 1911. 1912. 1913.	14,493	1,000 pounds. (1) 23,522 41,992 39,974 27,768	1,000 pounds. 5 75,593 36,261 63,260 54,585 54,636	1,000 pounds. (3) 54,630 78,131 82,595 71,486	1,000 pounds. 5 318,004 95,498 172,881 185,447 208,478	1,000 pounds. (4) 64,338 69,143 70,563 63,374	1,000 pounds. 5 115,845 22,576 26,198 25,687 21,385
1915. 1916. 1917. 1918.	12,423 13,004 24,801 5,819	15,678 26,913 20,474 5,489	30,289 37,222 9,112 2,093	93,001 153,339 141,665 34,836	241,340 280,839 229,020 186,215	50,713 85,506 76,462 53,306	15,834 15,152 12,441 9,058
1919 1920 1921 ⁷ 1922	15,620 9,484 1,918	42,325 16,903 14,261	22,230 18,230 33,677	96,190 59,150 13,257	311,092 216,174 166,929	111,134 69,877 54,925	22,523 10,327 8,202
1922. January February March April Moy June July August	24 359 1,082 285 146 59 991 126	1,652 1,493 907 962 903 1,718 1,665 2,160	620 1,520 1,064 740 1,720 2,550 1,951 4,069	2,061 2,157 1,758 1,111 1,526 2,778 2,466 3,598	13,873 21,129 13,150 15,237 18,381 23,714 21,494 33,594	4,129 3,905 5,190 7,238 6,093 5,650 4,231 4,213	1,401 1,658 1,718 1,469 1,136 1,859 570 1,327
September	201	2,392	4,297	3,266	26,955	4,041	328
	Transaan	l ass skins		07	-1 0		
	HOISE AND	1 922 281112	Kangaroo and	Sheep	skıns.²		
Year.	Dry.	Green or pickled.	wallaby skins.	Dry.	Green or pickled.	All other	Total.
1910. 1911. 1912. 1913. 1914.	1,000 pounds. (4) 4,551 7,194 10,979 7,620	1,000 pounds. 519,512 5,704 5,675 8,448 4,645	1,000 pounds. (6) (6) (6) 1,097 1,329	1,000 pounds. (4) 18,787 25,645 31,132 29,338	1,000 pounds. 5 67,406 36,930 34,755 40,653 40,739	1,000 pounds. 12,259 8,669 7,988 4,802 15,780	1,000 pounds. 608,619 374,891 537,768 572,197 561,071
1915. 1916. 1917. 1918.	5,425 6,780 9,048 873	3,800 11,347 13,414 4,125	769 1,219 604 679	20,886 54,600 50,357 21,530	37,834 46,859 33,625 30,934	10,226 10,890 10,043 6,934	538,218 743,670 631,066 361,891
1919 1920 1921 ⁷	12,077 5,043 812	15,976 11,803 3,248	1,384 1,389 455	43,560 29,833 13,457	$\frac{41,471}{52,916}$ $\frac{32,398}{32}$	9,254 9,111 4,508	744,836 510,240 348,047
January 1922. February March April May June July August	17 14 5 46 389 392 1,007 620	173 378 476 530 790 388 458 877	70 32 56 79 120 57 48 68	563 787 2,582 1,239 1,305 1,822 1,328 1,247	2,650 1,506 1,935 2,541 5,070 3,475 3,081 7,593	599 252 416 458 539 671 452 388	27, 832 35, 190 30, 339 31, 935 38, 118 45, 133 39, 742 59, 880
September. October November. December	668	637	90	1,261	5,883	568	50, 587

¹ Monthly summary of foreign commerce.
² Except sheepskins with wool on.

⁵ Includes dry hides. ⁶ Included in all other.

HIDES AND SKINS-Continued.

Table 364.—Hides: Quarterly stocks of hides in United States, 1921-22.1 [000 omitted.]

				RAW P	ACKER.				
Description and year	Mar. 31.	June 30.	Sept. 30.	Dec. 31.	Description and year.	Mar 31.	June 30.	Sept 30.	Dec.
Steers: 1921 1922 Cows:	1,564 1,255	1,522 1,492	1,451 1,342	1,090 1,370	Mixed cattle. 1921 1922 Calfskins:	265 292	378 202	273 208	305 241
1921. 1922. Bulls:	2,251 1,145	1,537 1,054	1,169 1,186	1,173 1,584	1921 1922 Kipskins.	913 703	1,073	775 670	531 596
1921 1922	188 100	165 99	162 132	125 144	1921 1922	377 124	290 87	240 196	193 274
DOMEST	C AN	o For	EIGN	CATTL	E HIDES (OTHER 1	HAN	PACKI	ER).	
Calf, dry or dry salted: 1921. 1922.	384 486	456 378	590 572	564 760	Steers, green salted 1921 1922 Mixed cattle, green	685 291	545 202	354 340	259 105
Calf, green salted: 1921 1922 Cattle, dry or dry salted:	1,763 1,775	2,362 2,507	2,110 2,432	1,870 1,912	salted: 1921 1922 Kip, dry or dry salted:	1,109 801	847 706	1,191 790	1,021 787
1921 1922	984 1,064	885 968	$937 \\ 1,020$	1,012 1,143	1921	20 461	46 455	61 447	45 319
Bulls, green salted: 1921. 1922. Cows green salted	58 54	76 44	54 37	58 37	Kip, green salted: 1921 1922	396 330	254 334	269 346	392 570
Cows, green salted. 1921. 1922.	703 660	1,105 579	496 462	775 636					
gen gast fifth act sinn in market in the set the second fill and access the appeal of the set to see		MISC	ELLAI	NEOUS	HIDES AND SKINS			<u> </u>	
Buffalo hides: 1921 1922	211 138	188 139	170 156	141 109	Horse, colt, ass, and mule fronts: 1921	43	. 57	57	62
Cabretta skins: 1921 1922	1,579 361	1,219 878	791 810	547 930	1922. Horse, colt, ass, and mule shanks:	44	62	94	115
Calf and kip skins (domestic): 1921	4,302 3,881	4,926 4,474	4,413 4,664	3,990 4,462	1921 1922 Kangaroo and Wal-	72 56	109 42	65 60	60 154
Cattle and kip hides and skins (foreign tanned):	.,	2,	,,,,,	,	laby skins: 1921 1922 Pig and hog skins:	410 268	363 240	359 177	389 243
1921	293 124	240 62	202 46	151 75	1921 1922 Pig and hog strips	251 111	120 111	89 106	97 96
1921 1922 Deer and elk skins: 1921	7,807 5,662	7,078 5,347 212	6,086 5,515 216	5,819 6,346 275	(pounds): 1921 1922 Sheep and lamb	1,163 226	859 483	349 390	517 319
1922 Goat and kid skins: 1921 1922	136 8,652	9,680 10,799	187 10,746 8,641	188 10,380 8,730	1921			12,606 10,475	12,661 9,151
mule hides: 1921	385 254	386 140	306 109	260 128	(pieces): 1921	1,611 1,732	1,778 1,858	1,784 2,031	1,770 2,141
Horse, colt, ass, and mule butts: 1921	222	193	191	207					

¹ Bureau of Census.

 $\frac{222}{220}$

 $\frac{193}{224}$

191 310

207 456

HIDES AND SKINS-Continued.

PACKER HIDES

Year.	Jan.	Feb.	Mar.	Apr	May	June	July	Aug	Sept.	Oet	Nov.	Dec.	Aver- age
1910 1911 1912	\$0.17 .13 .16 .19	\$0.15 .13 .16 .18	\$0.14 .13 .16 .17	\$0.15 .13 .16 .17	\$0. 16 .14 .17 .17	\$0.18 .16 .17 .18	\$0 16 .16 .18 .18	\$0. 16 . 16 . 19 . 19	\$0. 16 . 16 . 20 . 19	\$0. 16 . 16 . 20 . 20	\$0.15 .16 .20 .20	\$0.14 .16 19 .18	\$0.16 .15 .18
Average 1910-1913	.16	.16	.15	.15	.16	.17	. 17	.18	.18	.18	.18	.17	. 17
1914. 1915. 1916. 1917. 1918. 1919. 1920.	.18 .23 .23 .32 .32 .28 .40	.18 .23 .23 .31 .29 .28 .40	.18 .21 .22 .30 .26 .28 .37	.18 .19 .23 .30 .27 .31 .36	.18 .22 .26 .32 .31 .37 .36	. 19 . 24 . 27 . 32 . 33 . 41 . 36	.20 .26 .27 .32 .33 .50	.21 .27 .26 .32 .30 .53 .28	.21 .26 .26 .33 .30 .46 .28	. 21 . 26 . 28 . 34 . 30 . 48 . 26	.22 .26 .32 .35 .29 .47 .22	.23 .25 .33 .35 .29 .40	. 20 . 24 . 26 . 32 . 30 . 40
A verage 1914–1920 1921	.28 .17 .16	.27 .15 .16	.26 .13 .14	.26 .11 .14	.29 .12 .15	.30 .14 .17	.31 .14 .18	.31 .14 .20	.30 .14 .21	.30 .15 .23	.30 .16 .23	.29 .16 .21	. 29

COUNTRY HIDES

1910.	\$0.14	\$0.13	\$0.12	\$0.13	\$0.12	\$0.12	\$0.11	\$0. 12	\$0.13	\$0.12	\$0.12	\$0.11	\$0.12
1911.	.11	.11	.11	.11	.11	.12	.13	.13	.13	.13	.14	.13	.12
1912.	.13	.13	.13	.13	.14	.14	.14	.15	.16	.16	.16	.16	.14
1913.	.15	.15	.15	.15	.14	.14	.15	.15	.16	.17	.17	.16	.15
Average 1910-1913	.13	.13	. 13	.13	. 13	. 13	. 13	. 14	. 14	.14	.15	.14	. 13
1914. 1915. 1916. 1917. 1918. 1919.	.16 .20 .18 .24 .23 .22 .33	.16 .20 .19 .24 .21 .22 .33	.16 .18 .18 .24 .17 .22 .30	.15 .17 .19 .24 .19 .24 .28	.17 .17 .20 .25 .28 .28	.16 .18 .20 .26 .28 .34 .24	.16 .21 .20 .26 .28 .43 .23	.16 .20 .21 .27 .24 .47	.17 .20 .21 .24 .24 .41 .19	.17 .22 .23 .28 .24 .38 .18	.19 .21 .27 .29 .22 .36 .16	.20 .20 .26 .26 .22 .28 .14	.17 .20 .21 .26 .23 .32 .24
A verage 1914–1920	.22	.22	.21	.21	. 23	.24	.25	. 25	.24	.24	.24	.22	. 23
1921	.13	.11	.10	.09	. 09	.09	.08	. 08	.08	.09	.10	.10	. 09
1922	.10	.09	.08	.09	. 09	.11	.13	. 14	.14	.15	.15	.14	. 12

¹ Compiled from data in "Hides and Leather."

MEAT AND MEAT PRODUCTS.

Table 366.—Meat and meat products: International trade, calendar years 1911-1921.

[See "General note," Table 362.]

	Average,	1911–1913.	19)19	19	920	19	921
Country.	Imports.	Exports.	Imports.	Exports.	lmports.	Exports.	Imports	Exports.
PRINCIPAL EXPORTING COUNTRIES. Argentina Australia Brazil Brazil British South Africa Canada. China Denmark New Zealand Russia. Urnted States Uruguay. PRINCIPAL IMPORTING	43,327 85 32,184 960 130,897	1,000 pounds. 1,173,461 507,143 1,520 60,242 64,681 368,188 326,539 53,175 1,277,524 196,911	1,000 pounds. 296 1,643 3,115 6,434 74,842 1,221 33,482 1,007	1,000 pounds. 1,595,704 521,487 254,663 46,481 1410,481 148,088 34,177 552,770 3,118,728 407,028	1,000 pounds. 1,025 10,964 17,847 70,111 1,757 8,170 1,584 196,425	1,000 pounds. 1,172,631 316,228 195,479 14,250 203,013 89,599 157,661 593,445 1,851,692 289,410	1,000 pounds. 10, 232 6, 392 75, 436 1, 363 21, 394 79, 845	1,000 pounds 1,155,799 174,160 2,957 158,780 71,190 235,610 551,531 1,897,936
COUNTRIES, Austria-Hungary	170,686 2,044,172 611,744	19, 525 15, 708 497, 402 3, 365 3, 200 39, 768 3, 169 117, 226 57, 611 2, 162, 336 560, 284 1, 638, 145	558, 381	132, 273 2, 880, 769 741, 318	876,661	121, 828 2, 537, 300 620, 854	1 131, 345 190, 148 293, 714 118, 852 219, 781 71, 299 21, 070 25, 738 62, 811 3, 329, 020 144, 875 2, 161, 838 832, 754 1, 467, 643 351, 079	1 9, 287 48, 726 72, 308 7, 414 316, 437 1, 444 6, 578 63, 898 2, 088 90, 134 73, 981 1, 868, 396 516, 971 2, 179, 923
Total	4,990,370	5,024,656	5, 984, 866	7, 765, 173	5, 914, 243	5, 587, 257	4,813,314	4,940,258

¹ Austria only.

² One year only.

² Less than 500.

MEAT AND MEAT PRODUCTS-Continued.

Table 367.— Yearly production of beef, real, lamb and mutton, and pork, and percentage of total production, 1907-1922 1

SLAUGHTER.

[In millions of pounds, i. e., 000,000 omitted]

		Beef		v	eal.		eal.		ab ar			Pork		
Year.	Under Federal inspection.	Other.	Total.	Under Federal inspection	Other.	Total.	Total beef and veal.	Under Federal inspection	Other.	Total	Under Federal inspection	Other.	Total.	Total all meats.2
1907 1908 1909 1910	4,336 3,955 4,189 4,054	2,721 $2,882$	7,319 6,676 7,071 6,733		416 402 454 452	626 605 684 687	7,945 7,281 7,755 7,420	431 428 466 463	128 127 138 137	559 555 604 600	4,420 4,853 3,946 3,470	3,071 3,373 2,744 2,411	7,491 8,226 6,690 5,881	15, 995 16, 062 15, 049 13, 901
1911. 1912. 1913. 1914.	3,984 3,731 3,595 3,601	$2,189 \\ 2,318$	6,497 5,920 5,913 5,639	229 239 176 158	428 429 312 275	657 668 488 433	7,154 6,588 6,401 6,072	569 608 569 555	169 180 169 165	738 788 738 720	4, 431 4, 242 4, 420 4, 264	3,080 2,947 3,072 2,964	7,511 7,189 7,492 7,228	15, 403 14, 565 14, 631 14, 020
1915. 1916. 1917. 1918.	3,979 4,362 5,169 5,638	1,756 $1,517$	6,118 6,686	220 296	260 316 366 439	428 536 662 791	6,244 6,654 7,348 8,111	482 472 364 381	144 140 109 108	626 612 473 489	4,749 5,186 4,071 5,551	3,301 3,448 2,830 3,303	8,634 6,901	15,900
1919 1920 1921 1922	4,578 4,113	2,081	6,283 6,463 6,194 6,747	378 402 267 396	482 534 521 397	860 936 888 793	7,143 7,399 7,082 7,540	470 423 494 418	132 115 107 116	602 538 601 534	5, 584 5, 133 5, 363 5, 869	3,124	8,193 8,487	16, 130 16, 170
10-year av, 1907- 1916	3,979	2,392	6,371	207	374	581	6,952	504	150	654	4,398	3,041	7,439	15,045
5-year av., 1917- 1921	4,851	1,735	6,589	359	468	827	7,416	427	114	541	5, 141	3, 133	8,274	16, 231

						
		Percen	tage of t	otal prod	uction	
Year.	Beef.	Veal.	Beef and veal.	Lamb and mut- ton.	Pork.	Total meats.
1907. 1908. 1909. 1910.	45.8 41.5 47.0 48.5	3.8	45 3 51.5	3 5 3 5 4.0 4.3	51 2 44.5	100 100
1911. 1912. 1913. 1914.	42.2 40.6 40.4 40.2	4 2 4.6 3.3 3.1	45.2 43.7	4.8 5.4 5.1 5.1	49.4 51.2	100
1915. 1916. 1917. 1918.	39.0 38.5 45.4 41.9		41 9 49.9	3.8	46 9	100 100 100 100
1919. 1920. 1921.	37.7 40.1 38 3 39.1	5.1 5.8 5 5 4.6	45.9 43.8	3.6 3.3 3.7 3.1	53.6 50 8 52 5 53.2	100 100 100 100
10-year av., 1907-1916.	42.4	3.8	46.2	4.4	49.4	100
5-year av., 1917–1921	40.7	5.1	45.8	3.3	50.9	100
			, ,			

¹ Compiled from reports of Bureau of Animal Industry. Quantities based on carcass weight: adible

MEAT AND MEAT PRODUCTS-Continued.

Table 368.— Yearly consumption of beef, veal, lamb and mutton, and pork, and percentage of total consumption, 1907-1922.

CONSUMPTION.

[In millions of pounds, i. e , 000,000 omitted.]

Yeat.	Beef.	Veal.	Total beef and veal.	Lamb and mutton.	Pork.	Total meats ²
1907	6,448	626	7, 593	558	6,477	14, 628
1908		605	7, 053	554	7,607	15, 214
1909		684	7, 592	602	6,218	14, 412
1910		687	7, 310	598	5,568	13, 476
1911	5,864	657	7,062	735	7,055	14, 852
1912		668	6,532	783	6,749	14, 064
1913		488	6,390	733	7,037	14, 160
1914		438	6,235	734	6,882	13, 851
1915	5,854	429	5, 971	636	7, 151	13, 758
1916		537	6, 391	621	7, 625	14, 637
1917		663	6, 998	476	5, 962	13, 436
1918		792	7, 509	488	7, 134	15, 131
1919	6,022	865	6,887	606	7,043	14, 536
1920	6,498	944	7,442	538	7,335	15, 315
1921	6,223	892	7,115	661	7,859	15, 635
1921	6,711	798	7,509	545	8,306	16, 360
10-year average, 1907-1916	6,231	582	6, 813	655	6,837	14, 305
5-year average, 1916-1921	6, 359	831	7, 190	554	7,067	14, 811

PERCENTAGE OF TOTAL CONSUMPTION.

1907 1908.	47.6 42.4	4.3 4.0	51. 9 46. 4	3.8 3.6	44. 3 50. 0	100 100
1909	47.9	4.8	52.7	4.2	43.1	100
1910	49.1	5. 1	54. 2	4.4	41.4	100
1911	43.1	4.4	47.5	5.0	47.5	100
1912 1913	41.7 41.7	4.7 3.4	46. 4 45. 1	5.6 5.2	48.0 49.7	100 100
1914	41.8	3. 2	45.0	5.3	49.7	100
1915	40.3	3.1	43.4	4.6	52.0	100
1916 1917	40.0 47.2	3.7 4.9	43. 7 52. 1	4.2 3.5	52. 1 44. 4	100 100
1918	44.4	5. 2	49.6	3. 2	47. 2	100
1919	41.4	6.0	47.4	4.2	48, 4	100
1920	42. 4 39. 8	6. 2 5. 7	48.6 45.5	$\frac{3.5}{4.2}$	47. 9 50. 3	100 100
1921 1922	41.0	4.9	45. 9	3.3	50.8	100
10-year average, 1907-1916	43.5	4.1	47.6	4.6	47.8	100
5-year average, 1916-1921	43.0	5. 6	48.6	3.7	47. 7	100
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¹ Compiled from reports of Bureau of Animal Industry. Quantities based on careass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.
² Not including goat meat.

MEAT AND MEAT PRODUCTS-Continued.

Table 369.—Annual per capita consumption of dressed meat and lard, 1907-1922.1

Year.	Beef.	Veal.	Mutton and lamb.	Pork, ex- cluding lard.	Total meat.2	Lard.	Total meat and lard.
1907. 1908. 1909.	Pounds. 79.7 72.4 76.2 71.8	Pounds. 7.1 6.8 7.5 7.4	Pounds. 6.4 6.2 6.6 6.5	Pounds. 74.1 85.4 68.6 60.3	Pounds. 167.3 170.8 158.9 146.0	Pounds. 12.5 14.3 11.6 10.5	Pounds. 179. 8 185. 1 170. 5 156. 5
1911	68. 4	7. 0	7.8	75. 1	158.3	11.8	170. 1
1912	61. 7	7. 0	8.2	70. 6	147.5	11.4	158. 9
1913	60. 8	5. 0	7.5	72. 5	145.8	11.7	157. 5
1914	58. 9	4. 4	7.5	69. 9	140.7	12.1	152. 8
1915.		4.3	6.4	72. 0	138 4	13.6	152. 0
1916.		5.3	6.2	75. 7	145.3	15.1	160. 4
1917.		6.5	4.7	58. 4	131.6	11.7	143. 3
1918.		7.6	4.7	68. 9	146.0	14.1	160. 1
1919	57. 3	8. 2	5.8	67. 1	138. 4	12.4	150. 8
1920	61. 1	8. 9	5.0	68. 9	143. 9	13.1	157. 0
1921	57. 7	8. 3	6.1	72. 9	145. 0	11.3	156. 3
1922	61. 4	7. 3	5.0	76. 0	149. 7	14.1	163. 8

¹ Compiled from reports of Bureau of Animal Industry. Quantities based on carcass weight; edible offal not included because of the variable percentage used in edible products. Subject to revision.

2 Not including goat meat.

HORSES AND MULES.

Table 370.—Horses and mules: Number and value on farms in the United States, January 1, 1870–1923.

Note.—Figures in *italics* are census returns; figures in roman are estimates of the Department of Agriculture. Estimates of numbers are obtained by applying estimated percentages of increase or decrease to the published numbers of the preceding year, except that a revised base is used for applying percentage estimates whenever new census data are available. It should also be observed that the census of 1910, giving the numbers as of Apr. 15, is not strictly comparable with former censuses, which related to numbers June 1.

[In thousands—i. e., 000 emitted.]

	Horses. Mules.			н	orses.	Mules.			
Year.	Num- ber.	Farm value Jan. 1.	Num- ber.	Farm value Jan. 1.	Year.	Num- ber.	Farm value Jan. 1.	Num- ber.	Farm value Jan. 1
1870, June 1	18, 267	2, 259, 981 2, 172, 694 2, 278, 222	1, 125 1, 813 2, 296 3, 265 4, 210 4, 323 4, 362 4, 386 4, 449	544, 359 525, 657 545, 245	1915	21, 195 21, 159 21, 210 21, 555 21, 482 19, 766 19, 208 19, 056 18, 853	\$2, 190, 102 2, 149, 786 2, 182, 307 2, 246, 970 2, 114, 897 1, 907, 646 1, 619, 423 1, 344, 136 1, 314, 956	4, 479 4, 593 4, 723 4, 873 4, 954 5, 427 5, 455 5, 467 5, 506	\$503, 271 522, 834 558, 006 627, 679 672, 922 805, 495 630, 568 481, 578 472, 735

¹ Preliminary estimate.

Table 371.—Horses and mules: Farm price per head, January 1, 1867-1923.

•	**********	J. L. J.			, <u></u>	· p. see p.	,		3 -,		
Year.	Horses.	Mules.	Year.	Horses.	Mules.	Year.	Horses.	Mules.	Year.	Horses.	Mules.
1867 1868 1869 1870	67.42	\$66. 94 56. 04 79. 23 90. 16 91. 98	1882 1883 1884 1885 1886	\$58. 53 70. 59 74. 64 73. 70 71. 27	\$71.35 79.49 84.22 82.38 79.60	1896 1897 1898 1899	\$33. 07 31. 51 34. 26 37. 40 43. 68	\$45. 29 41. 66 43. 88 44. 96 51. 41	1910 1911 1912 1913 1914	\$108.03 111.46 105.94 110.77 109.32	\$120. 20 125. 92 120. 51 124. 31 123. 85
1872 1873 1874 1875	67. 41 66. 39 65. 15	87. 14 85. 15 81. 35 71. 89 66. 46	1887 1888 1889 1890	72. 15 71. 82 71. 89 70. 22 67. 00	78. 91 79. 78 79. 49 78. 04 77. 88	1901 1902 1903 1904 1905	52. 86 58. 61 62. 25 67. 93 70. 37	63. 97 67. 61 72. 49 78. 88 87. 18	1915 1916 1917 1918 1919	103. 33 101. 60 102. 89 104. 24 98. 45	112.36 113.85 118.13 128.81 135.83
1877 1878 1879	55. 83 56. 63 52. 36	64. 07 62. 03 56. 00	1892 1893 1894	65. 01 61. 22 47. 83	75. 55 70. 68 62. 17	1906 1907 1908	80. 72 93. 51 93. 41	98.31 112.16 107.76	1920 1921 1922	96. 51 84. 31 70. 54	148. 42 116. 69 88. 09

Table 372.—Horses and mules: Number and value on farms, January 1, 1922, and 1923, by States.

			I	Horses.					Μυ	ıles.		
State.	Nur (thous Jan.	sands)	Averas per l Jan	ge price nead 1—	Farm (thous dollars J	value ands of (an. 1)—	(thou	nber sands)	per	ge price head . 1—	(thous	value ands of lars)
	1922	19231	1922	1923	1922	1923 1	1922	19231	1922	1923	1922	1923 1
Me N. H Vt Mass R. I	92 36 76 48 6	91 35 76 47 6	\$125.00 114.00 110.00 135.00 138.00	114.00 104.00 138.00	4,104 8,360 6,480	\$11, 102 3, 990 7, 901 6, 486 798						
Conn	37 520 72 496 26	36 510 72 491 25	135.00 117.00 133.00 112.00 66.00	115.00 129.00	55, 552 1, 716		7 6 53 9	6 55	151.00 124.00	\$133.00 131.00 125.00 88.00	906 6,572	\$931 786 6,875 792
Md	137 300 161 166 73	136 300 161 166 70	87.00 84.00 89.00 108.00 88.00	86. 00 82 00 90. 00 108. 00 92. 00	25, 200 11, 329 17, 928 6, 424		15 257 215	97	105.00 97.00 129.00	103.00 102.00 128.00	10,080	3,663 9,991 1,530 33,280 25,916
Ga Fla Ohio Ind. Ill	99 38 787 703 1, 207	95 38 771 696 1,183	76.00 115.00 99.00 81.00 69.00	83. 00 105. 00 93. 00 74. 00 70. 00	56, 943 83, 283			32 101	84.00	138.00 97.00 77.00	6,216 3,100 8,481	5,934 3,104 7,777
Mich Wis Minn Iowa Mo	594 656 905 1,305 879	594 643 887 1,305 870	94.00 93.00 76.00 73.00 52.00	92, 00 104, 00 77, 00 79, 00 52, 00	55, 836 61, 008 68, 780 95, 265 45, 708	54,648 66,872 68,299 103,095 45,240	6 4 10 90 377	10	98, 00 98, 00 79, 00 78, 00 65, 00	82.00 80.00	7.020	594 412 820 8,080 23,499
N. Dak S. Dak Nebr Kans Ky	813 784 910 1,019 374	797 760 901 1,019 374	55.00 49.00 56.00 48.00 68.00	56. 00 52. 00 58. 00 45. 00 65. 00	44,715 38,416 50,960 48,912 25,432		8 14 112 301 293	8 14 111 307 287	72, 00 70, 00 70, 00 59, 00 82, 00	69, 00 68, 00 70, 00 58, 00 76, 00	576 980 7,840 17,759 24,026	552 952 7,980 17,806 21,812
TennAlaMissLaTex	315 130 211 173 971	309 129 211 171 971	75.00 76.00 70.00 77.00 58.00	73, 00 78, 00 72, 00 71, 00 53, 00	13, 321	22, 557 10, 062 15, 192 12, 141 51, 463	296 178	343 311 302 176 863	86, 00 94, 00 92, 00 118, 00 85, 00	84.00 99.00 93.00 113.00 80.00	28,106 27,232 21,004	28, 812 30, 789 28, 086 19, 888 69, 040
Okla Ark Mont Wyo Colo	708 247 670 202 421	715 247 643 198 425	45.00 57.00 41.00 39.00 54.00	40.00 53.00 38.00 33.00 46.00	31, 860 14, 079 27, 470 7, 878 22, 734	28,600 13,091 24,434 6,534 19,550	337 328 9 3 3 32	337 335 9 3 3	65, 00 79, 00 69, 00 61, 00 69, 00	58.00 73.00 60.00 58.00 60.00	21,905 25,912 621 183 2,208	19,546 24,455 540 174 1,980
N. Mex. Ariz. Utah. Nev.		181 135 128 49	50.00 68.00 70.00 47.00	45, 00 62, 00 69, 00 55, 00	8,850 9,180 8,960 2,256	8, 145 8, 370 8, 832 2, 695	21 12 3 2	21 12 3 2	72, 00 89, 00 66, 00 53, 00	66.00 76.00 62.00 61.00	1,512 1,068 198 106	1,386 912 186 122
Idaho Wash Oreg Calif	281 281 272 367	273 278 272 363	63.00 70.00 76.00 82.00	58, 00 70, 00 81, 00 81, 00	17,703 19,670 20,672 30,094	15, 834 19, 460 22, 032 29, 403	8 22 14 61	8 22 14 61	73.00 88.00 81.00 102.00	65.00 83.00 76.00 103.00	584 1,936 1,134 6,222	520 1,826 1,064 6,283
U. S	19, 056	18, 853	70. 54	69. 7 5	1,344,136	1, 314, 956	5, 467	5,506	88. 09	85. 86	481,578	472, 735

¹ Preliminary estimate.

Table 373.—Horses: Farm price per head, 15th of month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	\$140	\$147	\$150	\$154	\$148	\$151	\$148	\$148	\$145	\$144	\$143	\$141
1911	143	144	145	147	146	145	139	141	139	137	136	134
1912	134	137	140	142	144	145	142	142	141	140	139	139
1913	140	146	146	148	145	146	143	141	141	138	136	135
1914	137	139	138	138	139	136	137	135	132	131	130	130
	130	132	132	132	133	132	134	131	131	129	127	126
	128	129	131	133	134	132	133	131	131	130	129	129
	129	131	133	136	138	137	135	132	132	130	129	129
1918	130	133	137	137	136	135	132	181	128	126	122	121
	120	121	124	127	129	127	127	125	119	114	113	113
	118	123	127	131	132	130	127	124	119	112	103	97
	96	98	101	100	98	98	94	93	89	85	82	81
	82	84	86	87	89	88	88	86	84	81	79	79
Av. 1913-1922	121	124	126	127	127	126	125	123	121	118	115	114

Table 374.—Horses: 1 Yearly losses per 1,000, from disease, 1888-1923.

Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.
1888. 1889. 1890. 1891. 1892.	18. 3 14. 6 16. 4 16. 6 15. 3	1898. 1899. 1900. 1901. 1902.	20. 0 23. 4 18 3 18. 2 20. 2	1908. 1909. 1910. 1911. 1912.	17. 1 18. 2 19. 9 19. 0 21. 9	1918. 1919. 1920. 1921. 1922.	16. 5 15. 7 17. 8 14. 7 15. 7
1894	21. 0 22. 3 20. 2 21. 3	1904	19.6 17.9 17.7 18 9	1914	20. 6 17. 5 16. 9		

¹ Including mules since 1912.

Yearbook of the Department of Agriculture, 1922. 814

HORSES AND MULES-Continued.

Table 375.—Horses: Monthly farm price, per head, 15th of month, by States, 1922.1

								,					
States	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Maine New Hampshire. Vermont Massachusetts Rhode Island.	\$148 130 118 136 150	\$150 130 125 133 150	\$155 125 117 150	\$149 112 137 156 154	\$144 143 125 156 155	153 148 125 140 160	\$151 148 130 150	\$149 148 135 150 167	\$143 150 146 140 150	\$112 140 146 150	\$145 120 120 120 120 150	\$148 121 129 128 162	\$148 135 129 142 2 155
Connecticut. New York. New Jersey. Pennsylvania. Delaware.	171	165	160	180	155	150	154	150	170	152	125	158	158
	131	138	138	137	134	131	131	134	125	127	125	120	131
	145	145	135	150	150	150	150	150	150	150	150	150	148
	125	130	135	131	130	132	130	130	135	130	125	120	129
	85	89	94	95	100	105	100	92	92	96	90	85	94
Maryland	95	93	95	100	103	104	104	90	97	91	98	89	97
Virginia	88	92	88	91	93	93	90	88	88	90	88	87	90
West Virginia	99	100	104	105	103	103	102	101	103	96	96	95	101
North Carolina	108	101	112	110	113	110	112	108	111	110	110	107	110
South Carolina	86	87	86	86	87	85	88	90	90	85	85	85	87
Georgia	80	84	82	77	84	75	82	85	78	78	78	82	80
Florida	120	121	120	122	120	123	122	115	120	125	125	120	121
Ohio	110	115	117	115	114	114	111	108	101	96	96	98	108
Indiana	92	95	96	95	95	95	92	89	82	83	82	83	90
Illinois	88	85	85	90	94	92	91	91	90	91	87	87	89
Michigan	108	126	126	122	120	126	120	110	115	107	106	104	116
Wisconsin	99	105	107	113	116	115	115	116	113	113	108	115	111
Minnesota	96	97	99	98	100	102	105	98	93	90	85	83	96
Iowa	95	95	98	94	102	97	97	98	100	97	93	93	97
Missouri	57	58	58	58	63	66	63	60	55	52	54	52	58
North Dakota South Dakota Nebraska Kansas Kentucky	65 63 74 60 70	63 76 79 62 75	75 76 84 64 76	78 75 84 65 70	80 75 83 68 72	80 76 82 71 76	84 70 83 65 76	86 72 79 61 73	88 63 76 58 68	80 64 70 53 63	72 64 70 55 63	68 62 69	77 70 78 8 62 70
Tennessee Alabama Mississippi Louisiana Texas	78 75 72 88 64	80 78 62 73 65	82 71 69 72 66	83 81 75 69 67	82 82 74 81 70	82 81 75 67 66	82 82 76 88 68	83 75 75 75 75 64	80 78 75 80 68	76 81 72 69 61	80 78 75 70 64	81 78 70 86 65	81 78 72 76 66
Oklahoma	57	59	61	61	65	65	65	55	49	52	53	44	57
Arkansas	61	60	61	65	65	60	64	63	61	62	58	59	62
Montana	47	41	39	40	40	40	41	41	41	52	40	48	42
Wyoming	48	60	58	60	67	58	54	55	58	50	45	40	51
Colorado	67	72	72	78	78	80	78	74	67	67	53	52	70
New Mexico	57	58	60	58	58	63	60	60	55	48	51	54	57
Arizona	70	65	75	75	75	75	75	70	70	70	65	65	71
Utah	85	84	90	95	105	110	95	97	97	90	90	88	94
Nevada	47	47	50	52	50	50	55	55	60	60	60	60	54
Idaho	85	86	86	86	87	90	91	94	80	85	85	85	87
Washington	94	95	97	100	108	101	84	95	98	76	87	91	94
Oregon	80	85	85	95	100	95	90	75	80	75	75	80	85
California	90	95	98	100	98	95	98	98	98	98	98	9 4	97
United States	82	84	86	87	89	88	88	86	84	81	79	79	84

Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
 months' average.
 11 months' average.

Table 376.—Horses and mules: Yearly receipts at principal markets and all markets, 1900–1922.

[000 omitted.]

						,						
Year.	Chi- cago.	Den- ver.	East St. Louis.	Fort Worth.	Kan- sas City.	Oma- ha.	St. Jos- eph.	St. Paul.	Sioux City.	Total.	All other mar- kets.	Total all mar- kets.2
1900. 1901. 1902. 1903.	99 109 102 101 106	23 17 24 19 13	145 129 109 129 181	(3) (3) 5 10 18	103 97 77 67 68	60 36 42 53 47	13 23 20 20 29	27 15 8 8 6	31 18 19 12 4	501 444 406 419 472		
1905. 1906. 1907. 1908. 1909.	127 127 102 92 91	16 17 11 11 11	178 166 117 109 122	18 21 19 12 21	66 70 62 56 68	45 42 44 40 32	32 28 27 23 23	6 9 15 7 6	15 19 16 13 15	503 499 413 363 393		
1910 1911 1912 1913 1914	83 105 93 91 106	16 18 15 16 17	130 171 164 157 148	34 37 49 57 48	70 85 73 82 87	30 32 33 32 31	28 42 39 32 25	5 8 5 5 6	16 17 10 10 10	412 515 481 482 478		
1915	165 205 107 88	72 53 20 15	271 267 280 242	55 79 115 79	102 123 128 85	42 27 33 22	41 27 34 39	10 12 10 7	22 17 29 23	780 810 756 600	327 668 720 616	1,107 1,478 1,476 1,216
1919 1920 1921 1922	46 43 34 32	23 18 10 13	250 141 68 95	60 45 13 29	83 72 30 38	25 19 7 9	43 30 12 16	11 10 5 2	16 23 7 8	557 401 186 242	511 324 131 201	1,068 725 317 443
January February March April	3 4 6 3	1 1 1 1	12 8 9 5	2 1 (4)	7 3 4 2	(¹) 1 (¹)	2 1 2 1	(4) (4) 1 (4)	1 1 1 1	28 5 20 5 25 5 15	20 17 22 14	48 37 47 29
May June July August	3 2 2 1	1 1 2 1	, 4 2 3 6	(4) (4) (4) 2	2 1 1 2	(4) (4) 1	(*) (*) 1	(4) (4) (4) (4) (4)	(4) (4) (4) (4) (4)	11 57 510 515	10 9 7 9	21 16 17 24
September October November December	2 2 2 2	2 1 1	10 14 13 9	5 7 6 5	3 5 5 3	1 2 1 1	2 2 2 2	(4) (4) (4) (4)	1 1 1 (4)	26 34 29 22	15 27 26 25	41 61 55 47

¹ Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural From take of the reporting service of the Economics.

2 Figures prior to 1915 not available.

3 Not in operation
4 Less than 500.

Sum of monthly receipts for 9 cities varies from actual total due to converting figures into thousands.

Table 377.—Horses and mules: Yearly receipts at public stockyards in the United States, 1915–1922.

Management in the specific parties and which was remainded a resource of the section of the specific specific and the specific sp							·	
Market	1915	1916	1917	1918	1919	1920	1921	1922
Albany, N Y Amarillo, Tex Atlanta, Ga Augusta, Ga Baltimore, Md	5,006 3,956	6,014 14,390 13,901	3, 303 13, 367 23, 125 7, 442	14, 655 78, 160 33, 219 8, 670	15,014 60,327 22,089 4,961	12, 804 25, 931 7, 055 4, 313	40 2,050 3,119 905 2,284	3,331 7,955 269 2,453
Billings, Mont Boston, Mass Buffalo, N Y Cheyenne, Wyo	3,237 12,280	8, 106 56, 482 205, 449	777 627 16, 515 5, 539 107, 311	1, 363 253 10, 031 3, 824 87, 820	1,841 276 18,594 2,076 45,762	760 22, 526 1, 782 43, 020	23, 687 965 33, 723	21, 159 3, 264 31, 689
Cincinati, Ohio. Cleveland, Ohio. Columbia, S. C. Columbus, Ohio. Dallas, Tex Dayton, Ohio. Denver, Colo. Detoot, Mich. Dublin, Ga. East St. Louis, Ill.	30, 425	19,671 1,356 32	27, 279 9, 060 1, 351 100	18, 521 4, 320 1, 271 2, 035 58	18,880 5,260 1,174 1,224	14, 181 5, 580 847 224	5, 699 2, 300 89	4, 248 2, 020
Dayton, Ohio Denver, Colo. Detroit, Mich Dublin, Ga East St Louis, Ill.	71,870	52,800 266,818	19, 758 13, 755 279, 837	74 14, 599 3, 544 245 241, 751	22, 936 1, 835 13 250, 311	17, 591 2, 584 26 141, 230	9, 639 667 67, 756	13, 485 821 95, 048
El Paso, Tex. Emeryville, Calif. Ene, Pa Evansville, Ind. Fort Worth, Tex.	7,892	23,385 658	15, 052 	9, 126 20 1, 608 1, 080	16, 295	13, 931 1, 706 962	9,574	6,106
Fort Worth, Tex. Indianapolis, Ind. Jacksonville, Fla. Jorsey City, N J Kansas City, Mo. Knoxville, Tenn	53, 640 28, 203	29, 444	115, 233 61, 692	19,608	1, 135 60, 363 9, 080 18	45, 362 8, 814 6	13, 086 2, 710	28,610 2,481
Kansas City, Mo Knoxville, Tenn LaFayette, Ind	62, 122 102, 153 7, 040	154, 721 123, 141 7, 378	70, 268 127, 823 8, 254	42, 185 84, 628 6, 430	10,574 82,852 7,214	2,624 71,797 4,160	1,602 30,453 2,276	1, 267 38, 310 4, 057
LaFayette, Ind Lancaster, Pa Logansport, Ind Louisville, Ky Marion, Ohio	2,800	1,417 1,068 5,200	8, 342 14, 127	11, 228 16, 967 141	2,068 11,274 977	3, 432 52 9, 031 2, 444	1,360 1 1,598 836	1,790 2,718 914
Memphis, Tenn Milwaukee, Wis. Mobile, Ala Mon. tomery, Ala Nashville, Tenn	1, 126 27	39, 816 1, 714 15, 855	7, 169 74, 280	33, 116 2, 185 24, 102 103, 818	32, 598 1, 879 22, 291 97, 425	8,006 2,246 11,969 29,572	14,770 1,243 4,002 101	46, 249 1, 878 14, 133
Nebraska City, Nebr New Brighton, Minn New Orleans, La New York, N Y North Salt Lake, Utah	3,870 17,447	616 852 8,529 1,785	809 2,614 7,574 1,981	83 1,097 556 307 1,573	342 9,489 368 1,952 1,484	244 3,653 1,254 1,723 1,641	134 107 51 568 627	570 121 224 1,007 1,715
Ogden, Utah. Oklahoma, Okla Omaha, Nebr Pasco, Wash Peoria, Ill	36, 954 41, 679	47, 381 27, 486 764	25, 425 62, 306 32, 781	18, 809 12, 687 22, 212 159 125	6, 467 9, 951 25, 201 380 171	5, 630 5, 847 18, 751 303 535	1, 460 1, 824 6, 779 126 501	1,387 4,798 8,871 320 475
Philadelphia, Pa. Pittsburgh, Pa. Portland, Oreg. Pueblo, Colo. Pichmond Va	7,214 48,310 4,668 8,359	11,002 53,505 2,904 8,250 17,514	9, 892 39, 073 6, 933 6, 665 25, 004	7,800 35,265 2,483 3,798 23,970	7, 222 17, 992 2, 308 3, 812 25, 100	5, 792 20, 472 1, 887 3, 563 16, 167	2,731 10,742 1,042 857 10,266	2, 836 14, 131 1, 076 1, 314 13, 161
St. Joseph, Mo St. Louis, Mo St. Paul, Minn San Antonio, Tex Seattle. Wash	41, 254 3, 577 10, 091 14, 094	27, 206 2, 108 11, 777 41, 105 20	33, 584 1, 968 9, 959 31, 898	39, 260 930 6, 541 29, 955 420	43, 380 11, 228 29, 881 923	29, 768 10, 488 24, 573 671	11,580 4,848 6,314 292	15, 961 2, 053 9, 212 443
Sioux City, Iowa Sioux Falls, S. Dak Spokane, Wash Tacoma, Wash	3,657	16,717 6,493 20	29, 391 49 7, 125	23,306 243 4,733 12	16, 272 253 2, 926 63	23, 238 176 2, 535	7, 262 69 761	7, 954 375 1, 103
Toledo, Ohio	14,472	1,336 178 44,514 17,146	1,969 1,556 22,084 19,312	1,789 396 6,578 11,150	2,788 30 1,440 16,750	4,558 60 24,714	960 43 10,885	922 220 17, 936
Total	1, 106, 501	1, 477, 983		1, 215, 776	1,067,597	724, 811	317, 445	442, 646

Table 378.—Horses and mules: Monthly and yearly receipts at all public stockyards, $1915-1922.^1$

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.	Total.
1915. 1916. 1917. 1918. 1919. 1920. 1921.	97 118 148 161 115 146 35 48	95 105 95 149 87 112 41 37	95 111 117 133 71 87 44 47	88 84 93 44 53 48 25 29	98 120 68 36 37 43 18 21	103 104 63 45 43 34 14 16	94 162 83 53 53 38 11	74 138 58 84 92 75 17 24	85 139 129 128 148 62 22 41	111 153 236 162 130 40 36 61	97 129 223 145 146 23 29 55	70 115 163 76 93 17 25 47	1,107 1,478 1,476 1,216 1,068 725 317 443
8-year average by month	109	90	88	58	55	53	64	70	94	116	106	76	979

¹ Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

Table 379 — Horses and mules: Imports, exports, and prices, 1896-1921.

Year ending June 30—	Imports of horses.			Exports of horses.			Exports of mules.		
	Num- ber.	Value	Average import price.	Number	Value.	Average export price.	Number.	·Value.	Average export price.
1896	9,991	\$662, 591	\$66. 32	25, 126	\$3,530,703	\$140. 52	5, 918	\$406, 161	\$68. 63
	6,998	464, 808	66. 42	39, 532	4,769,265	120. 64	7, 473	545, 331	72. 97
	3,085	414, 899	134. 49	51, 150	6,176,569	120. 75	8, 098	664, 789	82. 09
	3,042	551, 050	181. 15	45, 778	5,444,342	118. 93	6, 755	516, 908	76. 52
	3,102	596, 592	192. 32	64, 722	7,612,616	117. 62	43, 369	3, 919, 478	90. 38
1901	3,785	985, 738	260 43	82, 250	8, 873, 845	107. 89	34, 405	3,210,267	93. 30
	4,832	1, 577, 234	3 26. 41	103, 020	10, 048, 046	97. 53	27, 586	2,692,298	97. 61
	4,999	1, 536, 296	307. 32	34, 007	3, 152, 159	92. 69	4, 294	521,725	121. 47
	4.726	1, 460, 287	308. 99	42, 001	3, 189, 100	75. 93	3, 658	412,971	112. 90
	5,180	1, 591, 083	307. 16	34, 822	3, 175, 259	91. 19	5, 826	645,464	110. 79
1906 1907 1908 1909	6,021 6,080 5,487 7,084 11,620	1, 716, 675 1, 978, 105 1, 604, 392 2, 007, 276 3, 296, 022	285. 11 325. 35 292. 40 283. 35 283. 65	40, 087 33, 882 19, 000 21, 616 28, 910	4, 365, 981 4, 359, 957 2, 612, 587 3, 386, 617 4, 081, 157	108. 91 131. 99 137. 50 156. 67 141. 17	7, 167 6, 781 6, 609 3, 432 4, 512	989, 639 850, 901 990, 667 472, 017 614, 094	138. 08 125. 48 149. 90 137. 53 136. 18
1911	9, 593	2,692,074	280. 63	25, 145	3,845,253	152. 92	6, 585	1,070,051	162. 50
1912	6, 607	1,923,025	291. 06	34, 828	4,764,815	136. 81	4, 901	732,095	149. 30
1913	10, 008	2,125,875	212. 42	28, 707	3,960,102	137. 95	4, 744	733,795	154 68
1914	33, 019	2,605,029	78. 89	22, 776	3,388,819	148. 79	4, 883	690,974	141. 51
1915	12,652	977, 380	77. 25	289, 340	64, 046, 534	221. 35	65, 788	12, 726, 143	193. 44
1916	15,556	1, 618, 245	104. 03	357, 553	73, 531, 146	205. 65	111, 915	22, 946, 312	205. 03
1917	12,584	1, 888, 303	150. 06	278, 674	59, 525, 329	213. 60	136, 689	27, 800, 854	203. 39
1918	5,111	1, 187, 443	232. 33	84, 765	14, 923, 663	176. 06	28, 879	4, 885, 406	169. 17
1919	4,003	750, 264	187. 43	27, 975	5, 206, 251	186, 10	12, 452	2, 333, 929	187. 43
	4,906	799, 012	162. 86	18, 952	3, 285, 066	173, 34	8, 991	1, 815, 888	201. 97
	4,044	1, 205, 457	298. 09	12, 638	1, 923, 041	152, 16	6, 770	1, 063, 254	157. 05
	3,136	531, 783	169. 57	17, 827	1, 868, 099	104, 79	11, 241	1, 009, 567	89. 81

CATTLE

Table 380.—Cattle (live): Imports, exports, and prices, 1896-1922.

		Imports.			Exports	-
Year ending June 30—	Numbei	Value.	Average import price.	Number.	Value.	Average export price
1896	217, 826	\$1, 509, 856	\$6, 93	372, 461	\$34, 560, 672	\$92 79
1897	328, 977	2, 589, 857	7, 87	392, 190	36, 357, 451	92.70
1898	291, 589	2, 913, 223	9, 99	439, 255	37, 827, 500	86.12
1899	199, 752	2, 320, 362	11, 62	389, 490	30, 516, 833	78.35
1900	181, 006	2, 257, 694	12, 47	397, 286	30, 635, 153	77.11
1901	146, 022	1, 931, 433	13. 23	459, 218	37, 566, 980	81. 81
1902	96, 027	1, 608, 722	16. 75	392, 884	29, 902, 212	76. 11
1903	66, 175	1, 161, 548	17. 55	402, 178	29, 848, 936	74. 22
1904	16, 056	310, 737	19. 35	593, 409	42, 256, 291	71. 21
1905	27, 855	458, 572	16. 46	567, 806	40, 598, 048	71. 50
1906	29, 019	548, 430	18. 90	584, 239	42, 081, 170	72. 03
	32, 402	565, 122	17. 44	423, 051	34, 577, 392	81. 73
	92, 356	1, 507, 310	16. 32	349, 210	29, 339, 134	84. 02
	139, 184	1, 999, 422	14. 37	207, 512	18, 046, 976	86. 96
	195, 938	2, 999, 824	15. 37	139, 430	12, 200, 151	87. 50
1911	182, 923	2, 953, 077	16. 14	150, 100	13, 16.1, 920	87. 70
1912	318, 372	4, 805, 574	15. 09	105, 506	8, 870, 075	84. 07
1913	421, 649	6, 640, 668	15. 75	24, 714	1, 177, 199	47, 63
1914	868, 368	18, 696, 718	21. 53	18, 376	647, 288	35, 22
1915.	538, 167	17, 513, 175	32. 54	5,484	702, 847	128, 16
1916.	439, 185	15, 187, 593	34. 58	21,666	2, 383, 765	110, 02
1917.	374, 826	13, 021, 259	34. 74	13,387	949, 503	70, 93
1918.	293, 719	17, 852, 176	60. 78	18,213	1, 247, 800	68, 51
1919.	440, 399	36, 995, 921	84. 01	42,345	2,092,816	49, 42
1920.	575, 328	45, 081, 179	78. 36	83,039	11,921,518	143, 57
1921.	329, 974	23, 634, 361	71. 62	145,673	11,050,507	75, 86
1922.	151, 533	3, 055, 201	20. 16	155,281	9,877,596	63 61

Table 381.—Live cattle: Exports and imports, 1909-1922.1

EXPORTS.

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910,	19, 049 16, 558 14, 509 11, 825 1, 009 411	15,067 8,525 6,177 1,006	11,306 11,528 6,673 956	4,212 14,435 5,376 2,367	1,940 20,232 3,189 1,269	4, 847 25, 172 2, 580 7, 464	4,193 16,821 3,232 3,058	6,667 12,709 2,493 967	9,867 572 1,654	8,828 9,950 1,591 4,074	11,711 8,540 1,289 1,372	16,215 11,799 1,466 1,010	26, 236
5-year av.2	8, 863	6, 242	6, 295	5,641	5, 464	8,382	5, 558	4,648	4,215	4,966	4,615	6, 133	71,022
1915	162 877 488 669 516	428 313 508	1,171 1,314 1,245	1,243	978 882 1,108	4,325 2,457	467 374 427	713 1,077	972 837 243	551 890 418	917 704 3,598	527 6,887 4,608	12,179 20,009 17,280
5-year av	542	391	919	5,028	1, 478	3,687	2,353	3,118	2,092	2,355	1,727	3,427	27, 117
1920. 1921. 1922.	6.004	7.498	11.886	23.066	28.076	29.530	20.345	20.662	4, 174 14, 541 4, 965	11, 108	12, 536	11, 281	85, 302 196, 533 111, 207

¹ Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce. 2 16:10-1914.

Table 381.—Live cattle: Exports and imports, 1909-1922—Continued.

IMPORTS.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1913	7,440 13,376 21,262 24,111	2,603 4,283 3,237 8,038 30,630 72,558	5,815 3,136 14,822 36,105	36,125 19,525 31,793 47,708	56,336 38,245 59,229 68,607	10,581 14,754 23,078 46,993	1,267 8,826 21,637 38,937	1,788 10,249 15,355 47,014	7,592 18,204 18,527 64,605	20,377 39,222 27,696 130,639	33,663 44,927 43,758 123,118	25, 963 38, 722 40, 522 78, 470	153, 902 211, 230 252, 423 325, 717 736, 937 727, 891
5-year av 1	31,376	23, 749	22, 933	40, 185	56, 213	27,707	20, 177	25,773	32,500	59,031	63,779	47,417	450, 841
1916 1917 1918	9, 762 22, 266 9, 286	51,018 8,662 22,094 11,924 38,813	9,409 23,444 14,603	17, 285 32, 181 22, 563	23, 992 33, 049 22, 112	13,447 28,702 27,457	15, 219 18, 780 21, 512	26, 121 20, 881 32, 517	37,476 39,244 47,983	48,907 49,061 49,439	51,526 37,359 54,403	33, 841 20, 449 38, 802	552, 489 295, 647 347, 510 352, 601 642, 395
5-year av	21, 897	26, 502	21,683	23,632	27, 834	27, 221	29,350	34,067	49, 9 69	66,661	66,897	42, 4 15	438, 128
1920 1921 1922	26, 971 17, 469 2, 876	24, 590 8, 066 2, 482	11,677	23,674	14,498	4,152	5,057	10,948	43,055 18,814 58,388	28,662	37,955	13,899	379, 114 194, 871

^{1 1910-1914.}

Table 382.—Cattle: Number and value on farms in the United States January 1, 1870-1923.

[See head note to table 370]

[000 omitted.]

	Mill	cows.	Othe	r cattle.		Mil	k cows.	Othe	r cattle.
Year	Num- ber.	Farm value Jan. 1.	Num- ber.	Farm value Jan. 1	Year	Num- ber.	Farm value Jan. 1.	Num- ber.	Farm value Jan 1.
1870, June 1 1880, June 1 1890, June 1 1900, June 1 1910, Apr. 15 1911 1912 1913 1914	16,512	\$290, 577 286, 785 363, 352 535, 091 727, 802 832, 209 815, 414 922, 783 1, 118, 487	41, 178 39, 679 37, 260 36, 030	\$277, 947 388, 990 544, 601 1, 251, 080 785, 261 815, 184 790, 064 949, 645 1, 116, 333	1915 1916 1917 1918 1919 1920 1921 1922 1923	21, 262 22, 108 22, 894 23, 310 23, 475 23, 722 23, 594 24, 082 24, 429	\$1,176,338 1,191,955 1,365,251 1,644,231 1,835,770 2,036,750 1,515,249 1,227,703 1,241,673	37, 067 39, 812 41, 689 44, 112 45, 085 43, 398 41, 993 41, 550 41, 923	\$1, 237, 376 1, 334, 928 1, 497, 621 1, 803, 482 1, 993, 442 1, 875, 043 1, 316, 727 988, 760 1, 076, 254

¹ Preliminary estimate.

Table 383.—Cattle: Farm price per head, January 1, 1867-1923.

Year.	Milk cows.	Other cattle.	Year.	Milk cows.	Other cattle.	Year.	Milk cows.	Other cattle.	Year.	Milk cows.	Other cattle.
1867 1868 1869 1870	\$28, 74 26, 56 29, 15 32, 52 33, 89	\$15. 79 15. 06 18. 73 18. 67 20. 78	1882 1883 1884 1885 1886	\$25, 89 30, 21 31, 37 29 70 27 40	\$19, 89 21, 81 23, 52 23, 25 21, 17	1896 1897 1898 1899 1900	\$22, 55 23, 16 27, 45 29, 66 31, 23	\$15, 86 16, 65 20, 92 22, 79 24, 73	1910 1911 1912 1913 1914	\$35, 29 39, 97 39, 39 45 02 53, 94	\$19.07 20.54 21.20 26.36 31.13
1872 1873 1874 1875	29. 45 26. 72 25. 63 25. 74 25. 61	18. 12 18. 06 17. 55 16. 91 17. 00	1887 1888 1889 1890	26. 08 24. 65 23. 91 22. 01 21. 62	19. 79 17. 79 17. 05 15. 63 14. 76	1901 1902 1903 1904 1905	30. 00 29. 23 30. 21 29. 21 27. 44	19. 93 18 76 18. 45 16. 32 15 15	1915 1916 1917 1918 1919	55 33 53, 92 59, 63 70 54 78, 20	33. 38 33. 53 35. 88 40. 88 44. 22
1877 1878 1879 1880 1881	25. 47 25. 74 21. 71 23. 05 23. 95	15. 99 16. 72 15. 38 16. 57 17. 33	1892 1893 1894 1895	21. 10 21. 75 21. 77 21. 97	15. 16 15. 24 14. 66 14. 06	1906 1907 1908 1909	29. 44 31. 00 30. 67 32. 36	15. 85 17. 10 16. 89 17. 49	1920 1921 1922 1923	85, 86 64, 22 50 98 50, 83	43. 21 31. 36 23. 80 25. 67

Table 384.—Cattle: Yearly losses per 1,000, from disease and exposure, 1890-1923.

Year.	Losses from disease.	Losses from expos- ure.	Year.	Losses from disease	Losses from expos- ure.	Year.	Losses from disease	Losses from expos- ure.	Year.	Losses from disease.	Losses from expos- ure.
	Per	1,000		Per	1,000.	-	Per	1,000.	1	Per	1,000
1890 1891 1892 1893	14.3	23. 0 15. 3 13. 0 17. 3	1899 1900 1901 1902	20. 3 19. 9 22 3 21. 3	22. 1 13. 7 11. 5 18. 2	1908 1909 1910 1911	19.2 21.0	12. 0 14. 8 17. 6 13. 3	1916 1917 1918 1919	19. 5 19. 4 18. 2 17. 4	10.7 14.6 13.3 15.9
1894 1895 1896 1897 1898	21.4 19.3	12. 5 20. 7 11. 3 16. 0 13. 0	1903 1904 1905 1906 1907		23. 7 20. 2 23. 3 14. 9 13. 7	1912 1913 1914 1915	21. 6 20. 5 19. 8	21, 5 14, 1 10, 9	1920 1921 1922 1923	19. 5 17. 0 17. 8	18. 5 9. 2 13. 1

Table 385.—Cattle: Number and value on farms January 1, 1922 and 1923, by States.

							, 1, 11 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 and 10 a					
			M	lk cow	rs.				Oth	er catt	le.	
State.	(thous	nber sands) . 1—	pr per l	rage ice head . 1—	(thous	value ands of Jan. 1—	(thou	nber sands) . 1—	Ave pr per l Jan	nead	(thou	n value sands of) Jan. 1—
	1922	1923 1	1922	1923	1922	1923 1	1922	19231	1922	1923	1922	1923 1
Maine New Hampshire Vermont Massachusetts Rhode Island	367	216 126 385 189 27	\$48.00 60.00 55.00 79.00 79.00	59.00 56.00 74.00	7, 260 20, 185 14, 220	7 434	41 84	34 82 39	16.80	25 50 18, 80 25, 70	931 1,411 1,184	867 1,542 1,002
Connecticut New York New Jersey Pennsylvania Delaware	1,695 151 1,071	141 1,678 153 1,071 40	60.00	63.00 87.00 60.00	113, 565 12, 986 64, 260	10, 998 105, 714 13, 311 64, 260 2, 200	402	410 32 506	24.70 37.60 29.00	24. 50 38. 80 29. 00	9,929 1,166 14,239	10,045
Maryland	420	194 430 222 365 228	43.00 49.50 42.00	42.50 48.00 39.00	18, 318 10, 692 15, 330	10, 656 14, 235	438 354 274	469 365 274	28.60 17.30	33.90 17.10	10, 819 10, 124 4, 740	12, 804 12, 374 4, 685 2, 362
Georgia. Florida. Ohio. Indiana Illinois.	509 95 1,048 727 1,125	509 97 1,069 742 1,148	53.00	56.00 56.00 53.00	5, 462 58, 688 38, 531	5, 432 59, 864 39, 326 64, 288	832 778 1,432	774 857 794	16 10 29.70	16.00 31.70 32.40	12, 461 24, 710 23, 340 41, 958	25, 726 53, 074
Michigan	967 2,195 1,578 1,115 769	977 2, 195 1, 641 1, 160 777	53. 00 52 00 48. 00 53. 00 44. 00	57.00 47.00 58.00	114, 140 75, 744	53, 735 125, 115 77, 127 67, 280 34, 965	576 885 1,343 3,134 1,890	876 1, 289 3, 479	19 60	22, 40 20, 40 35, 20	17,346 24,174 92,766	14,970 19,622 26,296 122,461 57,486
North Dakota South Dakota Nebraska Kansas Kentucky	484 417 553 709 520	503 450 570 716 530	43. 00 47. 00 53 00 46. 00 40. 00	51 00 57.00 46.00	19, 599 29, 309 32, 614	22, 132 22, 950 32, 490 32, 936 21, 200	848 1,601 2,477 2,282 511	1,521 2,700 2,487	24. 20 27. 40 24. 50	29. 40 31. 80 27. 20	38,744 67,870 55,909	17, 420 44, 717 85, 860 67, 646 11, 993
Tennessee	495 506 541 220 1,073	495 516 541 216 1,052	35. 00 29. 00 30. 00 43. 00 43. 00	27. 00 27. 00 38. 00	14, 674 16, 230 9, 460	14,607 8,208	597 515 677 591 5,363	677 585	10.80	9.60 9.50 14.70	$\begin{bmatrix} 5,150 \\ 7,312 \end{bmatrix}$	4,944 6,432 8,600
Oklahoma	560 516 160 11 213	566 516 165 46 253	39. 00 29. 00 58. 00 71. 00 57. 00	55. 00 67 00	14,964	12,384 9,075 3,082	1,421 549 1,260 852 1,361	1,235 835	27. 20 29. 70	8 80 30.90 30 70	5,984 34,272 25,304	25,634
New Mexico Arizona Utah Nevada	48 40 87 19	47 46 90 21	60. 00 95. 00 61. 00 69. 00	93.00 63.00	2,880 3,800 5,307 1,311	1,554	435 346	455	24, 90 26, 90 26, 40 30, 40	31 40 27. 40 32. 70	28, 245 11, 431 10, 518	11,641
Idaho	153 289 216 632	162 283 220 645	65. 00 70. 00 62. 00 76. 00	63. 00 61. 00 60. 00 76. 00	9,945 20,230 13,392 48,032			1,435	27. 50 28. 30 29. 70 34. 70	34. 70	47, 886	
United States	24, 082	24, 429	50.98	50. 83	1, 227, 703	1, 241, 673	41,550	41,923	23.80	25. 67	988, 760	1,076,254

¹ Preliminary estimate.

Table 386.— Milk cows: Farm price per head, 15th of month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July	Aug.	Sept	Oct.	Nov.	Dec.
1910.	\$41.18	\$40.35	\$41.75	\$42, 22	\$42, 38	\$43 46	\$12, 86	\$42 77	\$42.68	\$43 20	\$43 31	\$43 41
1911	14.70	44.48	45.42	44, 81	44, 54	43 86	12, 44	42 26	42.22	42 69	42.70	42.72
1912.	42.89	43 40	41.09	45, 14	45, 63	45 84	45, 41	46 11	46.79	47 30	47 38	48.62
1913.	49.51	51.42	54 02	55, 34	54, 80	55 20	51, 80	54 78	55.78	56 47	57.71	57 19
1914.	57.99	59.09	59 23	59 60	59, 85	59, 82	59, 67	60 72	59.58	59 53	58 77	58 23
1915.	58 47	57 99	58 00	57. 78	58, 29	58. 59	60. 31	58.34	58 38	58. 76	57 35	56. 79
1916.	57. 79	57. 99	59 51	60. 68	60, 98	61. 63	62 04	61 32	61, 41	62 19	62 67	63 18
1917.	63. 92	65 93	68 46	72. 09	72, 78	72 87	72. 81	72.53	73, 93	75 79	75 00	76. 16
1918.	76. 54	78. 36	80 71	82. 45	84, 11	84. 74	84. 97	81.06	85, 21	85 41	84. 51	85. 78
1919.	86 10	86. 15	88. 15	90. 91	93. 43	93. 84	94. 51	94. 72	93, 42	93, 13	93. 27	95. 54
1920.	91.42	95. 27	94. 94	95. 36	94. 56	94. 56	91. 23	90. 50	89, 40	85, 90	77. 56	70. 42
1921.	66.82	63 44	65. 37	64. 35	62 63	59. 89	56. 55	55. 85	54, 33	53, 39	53. 28	53. 30
1922.	52 83	53. 54	54 87	54. 46	54. 76	54. 87	54. 20	52. 67	52, 79	52, 86	51 62	53. 21
Av. 1913-1922	66. 44	66. 92	68.33	69.30	69, 62	69.60	69, 11	68, 55	68, 42	68 37	67.17	66 98

Table 387.—Beef cattle and veal calves: Farm price per 100 pounds, 15th of month, 1910-1922.

BEEF CATTLE.

Year.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910. 1911. 1912. 1913.	\$4.71 4.58 4.46 5.40 6.04	\$4 64 4.57 4.61 5.55 6.16	\$4.87 4.66 4.75 5.88 6.28	\$5 31 4.67 5.15 6.08 6.29	\$5 23 4.59 5.36 6.01 6.33	\$5, 20 4, 43 5 23 6, 02 6, 32	\$4.84 4 28 5.17 5.98 6.38	\$4.64 4.39 5.37 5.91 6.47	\$1.65 4 43 5.35 5.92 6.38	\$4 64 4.32 5 36 6 05 6 23	\$4.48 4 36 5.22 5 99 6.02	\$4. 45 4. 37 5. 33 5. 96 6. 01
1915	5, 99 5, 85 6, 86 8, 33	5, 93 5, 99 7, 36 8, 55	5. 92 6. 37 7. 91 8. 85	5. 96 6. 66 8. 57 9. 73	6 13 6.73 8.70 10.38	6. 20 6 91 8. 65 10. 40	6 07 6 78 8.30 10.07	6. 18 6. 51 8 17 9. 71	6. 06 6. 55 8. 40 9. 63	6. 04 6. 37 8 35 9. 33	5. 85 6. 44 8 21 9. 14	5 75 6.56 8.24 9 28
1919	9.65 8.99 6.32 4.75	10. 02 8. 98 6. 02 5. 07	10.34 9.08 6.36 5.46	10.81 9.20 6.08 5.53	10. 84 8. 97 5. 98 5. 70	10. 20 9. 32 5. 65 5. 84	9. 96 8. 93 5. 40 5. 76	9, 82 8, 56 5, 39 5, 51	9. 02 8. 29 4. 98 5. 44	8.65 7 77 4.81 5.48	8.65 7 15 4.69 5.29	8 63 6.36 4 62 5.28
Av. 1913-1922	6. 82	6.96	7. 24	7.49	7.58	7.55	7.36	7. 22	7.07	6.91	6.71	6.67

VEAL CALVES.

1910. 1911. 1912. 1913.	\$6.41 6.50 6.06 7.06 7.89	\$6. 28 6. 38 6. 07 7. 23 7. 90	\$6.59 6.48 6 11 7.49 7.92	\$6, 54 5, 96 6, 22 7 38 7, 68	\$6.30 5.98 6 23 7.17 7.59	\$6, 57 5, 72 6 33 7, 53 7, 69	\$6.37 5.74 6.33 7.46 7.80	\$6 29 5.93 6.62 7.53 8.08	\$6, 43 6, 11 6, 83 7, 73 8, 06	\$6, 41 6, 15 6, 90 7, 72 7, 97	\$6.39 6.10 6.77 7.70 7.78	\$6.38 5.98 6.88 7.74 7.61
1915.	7.66	7.62	7 50	7.31	7.35	7, 53	7, 87	7, 75	7, 80	7.91	7.69	7. 61
1916.	7.67	7.87	8, 11	8.00	8.08	8, 39	8, 54	8, 59	8, 77	8 59	8.60	8. 79
1917.	9.15	9.88	9, 94	10.49	10.48	10, 60	10, 77	10, 56	11, 08	11.10	10.66	10 98
1918.	11.16	11.17	11, 33	11.71	11.62	11, 88	12, 33	12, 22	12, 57	12.35	11.94	12. 31
1919.	12, 39	12.18	12.65	12.78	12, 11	12.40	13. 38	13. 43	13.39	12 87	12.65	12.67
1920.	12, 89	13.12	12.98	12.72	11, 69	11.68	11. 44	11. 64	11.88	11 64	10.77	9.27
1021.	9, 34	9.08	9.05	7.73	7, 55	7.43	7. 37	7. 31	7.67	7.61	7.20	7.14
1922.	7, 23	7.84	7.85	7.26	7, 28	7.67	7. 49	7. 67	8.10	8.17	7.92	7.78
Av. 1913-1922	9. 24	9.39	9.48	9.31	9.09	9. 28	9. 44	9.48	9. 70	9. 59	9. 29	9. 19

Table 388.—Cattle and calves: Monthly farm price per 100 pounds on 15th of month, by States, 1922.

BEEF CATTLE.

States.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov	Dec.	Aver- age.
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.	\$6.50 5.30 4.00 5.20 5.50	\$6.00 5.10 4.00 5.10 6.00	\$7.00 5 70 4.10 5.30 6.40	\$6.90 4.80 4.50 5.40 7.30	\$6.50 5.30 5.00 6.60 7.90	6.00 4.60	5. 90 4. 90	\$6.70 6.00 4.30 5.50 7.00	\$7.40 6.60 4 50 5.70 6.00	\$7.60 6.10 4.60 5.30 5.60	6.30	\$6. 80 5. 80 4. 20 5. 30 6. 00	5. 74 4. 40 5. 72
Connecticut New York New Jersey Pennsylvania Delaware	6. 00 4. 90 6. 20 6. 40 6. 50	5, 50 5, 10 6, 50 6, 50 7, 00	5. 20 5. 20 7. 20 7. 00 7. 30	7. 50 5. 20 6. 50 6. 70 7. 00	6. 00 5. 50 5. 50 7. 00 7 30	6 60 5.60 6 50 7.50 6.70	7. 00 5. 20 6 50 7. 20 7. 50	6 40 5.10 6 00 7 00 7.00	6 40 5.60 7.00 7.00 7.60	6.60 5.40 7.00 7.40 7.60	6.00 7.00	6 00 5.10 6.00 7.20 7.00	5. 25 6. 41 7. 00
Maryland Virginia West Virginia North Carolina South Carolina	6. 00 5. 10 5. 50 4. 80 4. 00	6. 10 5 40 5. 60 4. 70 3. 50	6. 70 5. 80 6. 00 5. 00 3. 80	6. 70 5 70 6. 10 4 80 4. 00	7. 30 5. 80 6. 20 5. 00 4 00	6 60 5 80 6.10 4.80 4.00	7. 10 6. 10 6. 50 4. 90 4. 10	6.70 6.10 6.00 4.90 4.10	7 10 6 00 6 30 5.10 4.10	7. 20 5. 90 6. 40 5. 10 4. 00	7.00 6.00 6.00 5.10 3 70	7. 10 5. 70 6. 20 5. 00 3. 50	6.08 4.93
Georgia. Florida. Ohio. Indiana. Illinois.	3. 50 4. 00 5. 60 5. 30 5. 30	3. 20 4 20 5 70 5. 70 5. 60	3. 30 4. 70 6. 10 6. 00 5. 90	3. 60 5. 20 6. 20 6. 10 6. 20	3. 70 5. 00 6. 50 6. 20 6. 20	3.50 4 70 6 60 6 30 6.60	3. 50 4. 60 6. 60 6. 50 6. 90	3. 40 4 20 6 30 6. 20 7. 00	3 20 4.00 6.50 6 40 7.10	3.10 4 20 6.50 6.70 7.30	3. 20 4. 30 6. 50 6. 50 6. 90	3 20 4.00 6.50 6.50 6.70	6.30 6.20
Michigan Wisconsin Minnesota Iowa Missouri	5. 10 3. 90 4. 20 5. 80 5. 10	5. 30 4. 30 5. 00 6. 00 5. 50	5. 50 4. 60 5. 00 6. 40 6. 00	5. 60 4. 50 5. 00 6. 50 6. 00	6. 10 4. 70 5. 10 6. 70 6 00	6. 20 5. 10 5. 50 7. 00 6. 70	6. 20 5. 00 5. 10 7. 60 6. 40	6.00 4.50 4.90 7.20 6.20	5. 80 4. 50 4. 80 7. 30 6. 30	5.60 4.60 4.70 7.90 6.30	4.30 4.40 7.30	5.60 4.50 4.50 7.30 6.00	4. 54 4. 85 6. 92
North Dakota South Dakota Nebraska Kansas Kentucky	4. 00 4. 80 5. 20 5. 20 5. 20	4. 30 5. 20 5. 90 5. 70 5. 10	4. 90 5. 80 6. 60 6. 10 5. 50	4. 80 6. 00 6. 30 6. 10 5. 40	5. 30 6. 10 6. 80 6. 40 5. 60	5. 30 6. 40 7. 20 6. 50 5. 40	5. 50 6. 10 6. 70 6. 50 5. 60	5. 00 5. 90 6. 90 5. 90 5. 60	4. 80 6. 00 6 70 5. 90 5. 60	4.80 6.00 6.70 6.10 5.10	5. 50 6. 20 5. 70	4 70 5. 40 6. 50 5 30 5. 20	5.77 6.48 5.95
Tennessee	3.70 3.10 2.80 4.50 3.80	3. 90 3. 20 3. 00 4. 60 4. 10	4. 00 3. 30 3. 30 4. 20 4. 50	4.00 3.50 3.30 4.40 4.60	4. 20 3. 60 3. 30 4. 50 4. 80	4.00 3.60 3.20 4.70 4.70	4.50 3.60 3.00 4.60 4.40	4. 20 3. 30 3. 00 4. 40 4. 10	4.30 3.30 3.00 4.30 4.10	4. 20 3. 20 3. 00 3. 90 4. 20	4.00 3.20 3.00 4.10 4.20	4. 10 3. 00 3. 00 3. 80 4. 20	3, 32
Oklahoma Arkansas Montana Wyoming Colorado	4. 00 3. 10 5. 20 5. 30 4. 90	4. 30 3. 20 5. 30 5. 70 5. 50	4. 80 3. 70 5. 70 6. 20 5. 80	4. 80 3. 70 5. 90 6. 30 6. 00	5. 20 3. 80 5. 80 6. 50 6. 20	4. 90 3. 60 6. 00 7. 30 6. 40	4. 70 3. 30 6. 00 7. 00 6. 30	4. 40 3. 50 5. 90 6 30 5. 80	4. 30 3. 20 5. 00 6. 10 5. 70	4. 20 3. 20 5. 00 6. 40 5. 60	4. 20 3. 00 5. 10 5. 80 5. 50	4. 10 3. 30 5 30 5. 60 5. 70	4. 49 3. 38 5. 52 6. 21 5. 78
New Mexico	4. 20 5. 00 4. 70 5. 60	4, 70 5, 20 5, 00 7, 00	5. 50 5. 70 5. 50 7. 00	5. 50 5. 70 5. 50 7. 00	5. 20 5. 70 5. 50 7. 00	5. 70 5. 70 6. 00 7. 00	6. 60 5. 60 6 00 6. 70	6 00 5.70 5.20 6 50	5. 20 5. 70 5. 20 6. 10	4.60 5.00 5.50 6.00	4.60 5.00 5.10 6.00	4.70 5.20 5.10 6.50	5, 21 5, 43 5, 36 6, 53
Idaho	4, 50 5, 00 5, 70 5, 80	5. 40 5. 60 6. 00 6. 20	5. 60 5. 80 6. 00 6. 70	5. 60 6. 10 6. 00 6. 90	5. 80 6. 40 6. 50 7. 00	6. 40 6. 50 7. 00 6. 50	5. 70 5. 50 6 00 6. 20	5 50 4.90 6 00 6.20	5, 00 5, 10 5, 50 6, 20	5. 00 4. 70 5. 50 6. 20	5. 10 5. 50 5. 20 6. 30	4.70 4.60 5.20 6.40	5. 36 5. 48 5. 88 6. 38
United States	4, 75	5. 07	5, 46	5. 53	5. 70	5.84	5. 76	5. 51	5 . 4 4	5.4 8	5. 29	5.2 8	2 5. 4 8

Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
 Weighted average.

Table 388.—Cattle and calves: Monthly farm price per 100 pounds on 15th of month, by States, 1922—Continued.

VEAL CALVES.

States.	Jan	Feb.	Mar.	Apr	May.	June.	July.	Aug	Sept.	Oct.	Nov	Dec.	Aver- age.
Maine New Hampshire Vermont. Massachusetts Rhode Island.	\$9.60 10.20 8.40 11.30 10.40	10.60 9.00 11.00	11.20	\$9.70 10.20 7.60 10.30 10.30	9. 20 7. 70 9. 80	9.50 8.30 9.70	9.60 8.20 9.90	9.50 8.20 9.60	\$9. 90 9. 80 8. 90 10. 50 11. 50	9.80 9.00	9.66 11.10	10. 20 9. 40	9. 93 8 61 10. 58
Connecticut New York New Jersey Pennsylvania Delaware	10.70 10.40 11.60 10.20 11.50	11. 00 10. 70 12. 50 10. 50 11. 00	10. 20 11. 50 10. 50	9.50	8 20 10.00 9.00	10.80 9.00 11.50 9.60 9.00	9.80 11.50 9.50	10.00 10.50 12.00 9.70 9.50	11.50 10.00		11.00 11.70 10.50	11. 20 10. 90 11. 00 10. 40 12. 00	10.18 11.40 10.01
MarylandVirg.niaWest VirginiaNorth CarolinaSouth Carolina	10. 40 8. 60 7. 70 6. 00 5. 30	10.60 8.70 8.00 6.30 5.00	8. 50 8. 40 6. 10	9.50 7.90 8.10 6.40 5.50	8. 70 7. 80 7. 40 6. 60 6. 00		7.70 6.40	9.30 7.20 7.50 6.00 6.40	10. 40 8. 00 8. 00 5. 70 6. 40	10.80 8.90 8.20 6.80 6.00	8.80 7.90 6.60	11.00 8.80 8 10 6.60 5 70	8. 21 7. 89 6 32
GeorgiaFloridaOhioIndianaIllinois	5. 00 5. 50 9. 10 8. 20 7. 70	4. 80 6. 00 10. 00 8. 90 8. 40	4.80 6.00 10.00 9.10 8.50	4.60 7.00 8.20 7.60 8.10	5. 40 7. 20 8. 00 7. 70 8. 00	8.30	8.30	5 00 6, 50 9, 20 8, 10 8, 50	4. 90 5. 20 9. 80 9. 40 8. 60	9.20	5.70 9.90 9.10	5. 50 5. 50 9. 60 8. 80 8. 00	6.04 9.29 8.56
Michigan Wisconsin Minnesota Iowa Missouri	8. 90 7. 10 6. 40 7. 20 6. 80	9.70 8.10 7.20 8.00 7.60	9.50 7.30 7.20 7.80 7.60	8.00 6.30 6.60 7.50 6.70	8.30 6.90 6.90 7.50 6.60	7.50 7.90	7.00 7.90	8.30	10.50 9.20 7.90 8.70 7.70	8.70	8.10 7.20 8.20	9. 50 7. 70 7. 30 8. 00 7. 40	7 73 7. 20 7. 98
North Dakota South Dakota Nebraska Kansas Kentucky	5. 80 6. 40 6. 40 6. 40 7. 20	6. 20 7. 00 7. 10 6. 90 7. 60	7.20 7.50	6.30 7.30 7.40 7.20 6.40	6. 50 7. 30 7. 90 7. 00 6. 70	8.10 7.60	7.10 8.00 7.10	7.40 6.80	6.50 7.60 7.60 7.30 7.70	6.50 7.70 7.50 7.20 7.20	7.40 7.50 7.20	6. 40 7. 70 7. 50 6. 50 7. 20	7.31 7.47
Tennessee Alabama Mississippi Louisiana Texas	5. 20 4. 60 4. 50 4. 80 4. 60	5. 40 3. 40 4. 40 4. 80 5. 00	4.90 4.90 5.20	5. 50 4. 70 5. 60 6. 00 5. 60	5. 60 5. 10 5. 00 5. 90 5. 60	5. 20 4. 50 6. 70	5.70	4.70 4.90 4.00 4.90 5.00	5.40 4.90 4.50 5.30 5.00	5.70 4.80 4.70 5.10 5.10	4.90	5.60 4.30 4.50 3.80 5.10	4.73 4.62 5.26
OklahomaArkansas Montana Wyoming Colorado	5. 00 5. 00 7. 10 7. 50 7. 10	5. 60 5. 10 7. 50 8. 00 7. 50	5.60 8.00 8.50	5. 70 5. 60 8. 30 9. 20 7. 50	9.20	8.30 9.30	5.10 8.70 10.00	6.00 5.00 8.20 8.60 6.80	5. 10 4. 90 8. 20 8. 90 6. 60	5, 20 5, 30 8, 20 8, 20 6, 60	8.10 7.80	5. 10 5. 30 8. 20 7. 60 6. 40	5. 22 8. 12 8. 57
New Mexico	6. 20 6. 00 7. 00 6. 00 6. 30	9.00	6. 50 8. 20 9. 50	10,00	8, 20 9, 00	7.00 9.00 10.00	9.50 8.00	7.50 7.50 8.90 9.00 7.80	7. 20 7. 50 8. 00 8. 40 6. 90	6, 50 6, 50 8, 70 8, 00 7, 00	8.50	6. 50 7. 00 8. 50 8. 00 6. 60	7.01
Washington Oregon California	7.80	9.00 8 20	9.00 8.60	8, 50 8, 80	8, 50 8, 50	8, 20 8, 00	7.90	7.10 8.50 8.00	7.10 8.50 8.00	7. 20 8. 50 8. 10		6.70 8.00 8.00	7. 42 8. 24 8. 16
United States	7. 23	7.84	7, 85	7, 26	7.28	7.67	7, 49	7.67	8. 10	8. 17	7. 92	7.78	7.69

Table 389.—Cattle and calves: Monthly and yearly average price per 100 pounds, Chicago, 1910 to 1922 $^{\rm 1}$

GOOD BEEF STEERS.

Year.	Jan.	Feb	Mar.	Apr	Мау	June	July.	Aug	Sept.	Oct	Nov	Dec.	Aver- age ²
1910	\$6. 20 6. 15 6 85 7. 80 8. 45	6 15 6.60 8 25	6. 20 7. 20	6 10 7.65 8.15	5 95 7. 95 8. 00	6.05 8 00 8.15	6 30 7 90 8 25	6. 95 8. 50 8 30	6. 80 9 15 8. 50	6 75 7. 90 8. 40	6 70 8.10 8.25	6.65 7.85 8.20	6. 40 7. 80 8. 21
5-year average	7.09	7 13	7.48	7 59	7. 56	7.66	7. 67	7 94	8 12	7.74	7.57	7.41	7. 58
1915 1916 1917 1918 1919	8. 05 8. 35 10. 15 12. 10 15 80	8.35 10 50 12 00	8.75 11.25 12.60	9.10 11.75 14.70	9.50 11.90 15 40	9 85 12 15 15.85	9 25 12 35 16 05	9 45 12.70 15.75	9 40 13 10 16.00	9 75 11 70 14 80	10 15 11 10 15.05	10 00 11.40 14.90	9 33 11 67 14.60
5-year average	10.89	10.86	11. 26	11.82	12 03	12.04	12 49	12 68	12, 59	12 24	12.02	11.80	11.89
1920 1921 1922	15 95 8. 91 7. 37	8 57	9.41	8 22	12 25 8.33 8.20	7 94	8 09	8 32	7 67	14 61 7 59 10.53	7.52	7.31	

CALVES

1910	\$8.60 8.75 8.75 9.75 11.00	8. 40 7. 50 9. 85	7. 40 8. 00 10. 50	6.60 7.40 8 50		7 60 8 00 9.75	7. 40 8. 75 10. 40	8 00 9.75 11 50	8 75 11 25 11 25	8.60 10.00 10.50	8.35 9.85 10 35	7.85 10.25 10.75	7.91 8 94 10.19
5-year average	9. 37	9. 03	8.78	7.84	8. 22	8 52	8. 95	9.60	10. 23	9.66	9. 53	9.16	9.08
1915 1916 1917 1918 1919	9. 85 10. 15 13. 40 15. 35 15. 62	12.65 14.15	9.65 13 40 15 25	8 75 12.50 14.50	10.40 13.25 13.50	11. 25 13. 40 16 02	11. 40 13. 00		12.40 15 00 18 63	11.50 14.85	11.85 13.50 16.86		10 98 13.78 15.92
5-year average	12. 87	12.71	12.66	11.69	12. 19	13. 33	13. 84	15.11	15 56	14. 42	13 99	13.84	13. 52
1920 1921 1922	17. 74 11. 49 8. 36	11.02	10.33	8. 12		8.72	9 73		10 71	14 18 8.68 9.65		7 81	9.36

¹ Prices of cattle prior to July, 1920, and prices of calves prior to June, 1918, compiled from Chicago Drovers Journal Yearbook, subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

² Simple average of monthly average prices.

CATTLE-Continued.

Table 390.—Cattle and calves: Monthly average price per 100 pounds, 1922.

CHICAGO.

	Calves.	Com- mon and me- dium.				
Stock eattle.	Cal	Good and choice.				
Stock	Cows	and heif- ers, com- mon to to choice.	\$3.98 4.34 4.73 5.16	4.4.4. 4.238 11.23	4.33 4.14 4.19	4.50
		Steers, con- mon to to choice.	\$5.51 6.22 6.84 6.84	6 60 6.20 6.13	5.95 6.01	6.12
der rrs.	Light and me-	duum (750 to 1,000 lbs.), common to choice.	\$5.94 6.50 6.51 6.98	6.86 6.70 6.55 6.67	6.76 6.44 6.38	6.56
Feeder steers.	Heavy	(L, out lbs. up), com- mon to to choice.	\$6.03 6.26 6.59 6.61 6.98	6.86 6.70 6.71 6.94	6.92 6.45 6.38	6.64
alves.		meavy weight, com- mon to choice.	55.76 5.57 5.54 5.99	6.05 5.85 5.78	5.26 5.05 5.39	5.69
Veal calves.		to medium weight, medium to to choice.	\$8.36 9.16 8.26 6.97 8.46	8.89 10.89 11.92	9 65 8.91 9.42	9.15
rs and ers.		Can- ner steers.	\$3.66 4.52 4.77 5.23	4.78 4.36 4.09	3.42 3.45 3.45	4.20
Canners and cutters.		Cows and heif- ers.	\$2.96 3.35 3.85 4.11	3.52 3.34 3.30	3.05 3.02	3.38
tle.		Bulls, bo- logna and beef.	\$4.98 4.79 5.18 5.49	5.28 5.60 5.14 5.12	5.10 5.01 4.98	5.16
Butcher cattle.		Cows, com- mon to choice.	42 72 72 73 73 73 73 73 73 73 73 73 73 73 74 75 75 75 75 75 75 75 75 75 75 75 75 75	5.74 5.95 6.07 6.03	5.92 5.75 5.77	5.72
But	#10 II	ers, com- mon to choice	\$5.94 6.02 6.53 6.90 7.18	7.12 7.11 7.04 7.09	7.18	6.91
	ounds	Com- mon.	\$6.26 6.34 7.04 7.45	7 54 7.60 7.14 6.84	6.09 6.49	6.86
	Lightweight (1,100 pounds down).	Me- dium.	\$7.40 7.57 7.74 7.82 8.04	88.33 8.33 8.36 8.45	\$.18 \$.17 \$.33	8.12
	weight	Good.	స్త్రీ ఇ ఇ ఇ ఇ ఇ జ్ఞ జిక్కాల్లోక	8.93 9.59 9.86	10, 14 10, 30 10, 57	9.31
Beef steers.	Lighty	Choice and prime.	93.99.99 93.83.19 93.13	9.48 10.15 10.45 11.00	12.04 12.48 12.38	10.36
Beef	reight	Com- mon.	%.78 6.78 7.14 7.14	7.7.7. 6.99	6.83 6.73	7.00
	heavyw unds up	Me- dium.	87.46 7.75 7.94 7.88 7.96	8, 23 8, 55 8, 55 8, 58	S. 23 S. 63 S. 63	8.20
	Medium and heavyweight (1,101 pounds up).	Good.	\$\$. 8.8.8.8.8 8.60 8.60 8.60 8.60 8.60 8.6	8.99 9.53 9.65 10.00	10.27 10.62 10.72	9.37
	Medi	Choice and prime.	\$9.45 9.50 9.25 9.04 8.97	9, 56 10, 27 10, 52 11, 17	12.26 12.66 12.48	10.43
	;	Months.	ary uary -	st mber.	ber. mber.	Average

Prices compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

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TOTAL	
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\$4.38 4.46 4.76 5.00 4.55	4.62	5.08 5.00 4.84	4.78		\$4.67 4.88 5.15 5.68 5.97	5.50 5.39 5.39	5.28 4.85 88.85	5.26
\$5.78 5.86 6.17 6.35	6.38	6.70 6.82 6.67	6.37		\$6.52 6.90 7.27 7.49	7.25 7.21 7.29 7.12	7.28	7.10
\$3. S0 4. 4. 04 4. 53 4. 63 4. 83	4.24 4.24 2.13 8.88	3.89 3.89 3.82	4.19		\$4, 14 4, 59 4, 94 5, 00	4, 74 4, 64 4, 51 4, 50	3.44 3.96	4.56
\$4.99 5.42 5.93 5.96 5.68	5.44 5.33 5.38	5.38 5.38	5.47		\$5.47 5.76 6.17 6.55 6.62	6.36 6.51 6.31 6.14	6.05 6.01 5.94	6.16
\$5.44 5.42 6.41 6.27 6.12	6 05 5 95 6 28 6.38	6.40 6.33 6.16	6, 13		\$6.04 6.31 6.69 6.90 7.17	7 20 7.27 7.11 6.82	6.61 6.45 6.38	6.75
\$5.65 6.58 6.58 6.53	6 38 6.25 6.49 6.50	6.52 6.47 6.39	6.36		\$6.01 6.30 6.73 6.92 7.11	7.12 7.28 7.21 6.90	6.70 6.43 6.35	6.76
\$6.26 6.16 6.10 5.94 6.29	5 60 5.45 5.69 5.91	5.57 5.80 5.76	5,88		\$5.79 5.82 5.70 5.98 6.72	6. 24 6. 19 6. 24 5. 79	5.39 4.97 5.38	5.85
\$8 64 9.11 8.15 6.87 7.63	7.62 7.60 8.92 9.32	8, 14 7, 87 8, 37	8.21		\$7.82 8.11 7.96 7.22 6.90	7.60 7.59 8.42 8.92	8. 54 7. 64 7. 66	7.95
\$2.99 3.09 3.55 4.03	3 85 3.62 3.48 3.52	3.30 3.12 3.16	3,46		\$3 02 3.24 3.64 3.85 4.24	4, 02 3, 50 3, 50 4, 00	3, 11 2, 96 3, 11	3, 52
\$2.84 3.14 3.41 3.53	3.25 3.17 3.04 3.02	2.2.87 2.887	3,13		\$2.73 3.12 3.49 3.58	22 32 22 32 32 32 33 32	2.86 2.91 2.85	3,11
26.83 25.83 5.03 5.03	5.03 5.20 5.22 5.22	4.98 5.09	4.99	TY.	\$4.03 4.05 4.24 4.28 4.85	4.61 4.76 4.20 4.24	3 98 4.08 4.28	4 30
\$4.66 4.71 5.26 5.47 5.68	5.18 5.08 5.05 5.18	5.06 4.90 5.06	5.11	KANSAS CITY	\$4 39 4.67 5.18 5.41 5.66	5.28 5.26 5.11 5.02	4.98 4.86 4.84	5.06
\$6.65 6.06 6.29 6.66 7.64	7.31 7.62 7.56 7.36	7 11 7.12 7.06	7.04	KAN	\$5.51 5.51 5.97 6.28 6.81	6.86 6.97 6.76 6.92	6.60 6.26 6.16	6 38
\$5.63 6.46 6.56 9.10	6.86 6.62 6.16 6.18	5.72 5.77 6.08	6.24		\$5.52 5.95 6.52 6.81 7.10	7.22 6.93 5.98 5.62	5.33 5.38 5.85	6.18
\$7.18 7.07 7.37 7.44 7.82	8.10 8.27 8.46 8.52	8.31 8.03 9.04	7.88		\$6.48 6.73 7.15 7.51 7.74	8.00 8.14 7.75 7.42	7.31 7.38 7.80	7.45
\$8.47 7.94 8.07 8.15 8.47	8, 80 9, 22 9, 66 10, 04	10 33 10.36 10.31	9, 15		\$7.66 7.58 7.73 8.06 8.24	8, 63 9, 11 9, 13 9, 01	9 32 9.63 9.81	8.66
\$9.47 8.68 8.77 8.90	9.23 9.85 10.32 10.86	11.69 12.12 12 20	10.19		\$8.98 8.60 8.45 8.45 8.76	9. 23 9. 82 10. 12 10. 38	11 20 11.75 11 73	9 81
\$5, 82 6, 18 6, 60 6, 56 6, 95	7.06 7.04 6.60 6.59	6.08 6.02 6.14	6.47		\$5.65 6.12 6.67 6.89 7.20	7.37 7.31 6.59 6.18	5.88 5.71 6.19	9. 4S
\$6.99 7.67 7.46 7.48 7.82	8.15 8.50 8.53 8.64	8.55 8.24 8.10	7.96		\$6. 58 6. 58 7. 28 7. 50 7. 71	8.07 8.44 8.08 7.79	7 69 7.73 8.16	7 65
\$8 03 7.96 8.15 8.20 8.47	8.95 9.46 9.81 10.13	10.45 10.44 10.34	9, 20		\$7.45 7.68 7.89 7.90 8.18	8 68 9 34 9.38	9.66 9.94 10.11	8.80
\$8.84 8.72 8.78 8.88	9.35 9.97 10.47 10.90	11.74 12.13 12.20	10.18		8, 65 8, 65	9 20 9.97 10.28 10.55	11.57 12.09 11.97	9.90
mary bruary rch ril	y. y. gust ytember	tobercember	Average		nuarybruaryirchirl	ne	toberxember.xember	Average

CATTLE-Continued.

Table 390.—Cattle and calves: Monthly average price per 100 pounds, 1922.—Continued.

OMAHA.

		_				
**	es.	Com- mon and me- dium.	######################################	6, 13 6, 09 5, 95 5, 85	ry ry ry N regig	5.60
attle.	Calves.	Good and choice.	8,697.7 1288.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1888.8 1	4343	1.5.7	7.05
Stock cattle.	Cows	and heif- ers, com- mon to choice,	24.44.00 87.29.04	8.44.4 87.47.88	844	4.63
		Steers, com- mon to choice.	5.00 6.00 2.00 2.00 2.00 2.00 3.00 3.00 3.00 3	6.68 6.83 6.11	6. 39 5. 13 5. 54	6.93
ler rs.	Light and me-	durm (750 to 1,000 Ibs.), com- mon to to	\$5.76 6.14 6.47 6.50 6.54	6.82 6.84 6.84 6.84	6.96 6.30	6, 53
reeder steers.	Heavy	(1,001 lbs. up), com- mon to choice,	5.06 6.03 6.73 6.73 6.93	6.45 7.09 7.16	6.33	6.69
lves.		rieavy v eight, com- mon 10 chowe.	85.5.0.0 6.5.5.28 7.5.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5.5 7.5 7	0000 8228	5,5,7	6.27
Veal calves.	Light	diual weight, nae- dium to ehoice.	#2.22.22 #4.22.22	8223 8236	9.12 5.33 8.05	5.63
s and ers.		Can- nu steers.	20.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00 11.00	3.85. 23.85. 23.85.	99.93 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13 13.13	, 25.00 8.00 1.00 1.00 1.00 1.00 1.00 1.00 1
Canners and eutters.		Cows and helf- ers.	83.25.88 83.25.88 83.25.88	3.33.53	887 616161	3.17
	-	Bulls, bo- logns and beef.	88.24.4.4. 99.99.99.99	4 2 4 4 1:458	****	4.45
Butcher cattle.		Cows, com- mon to to choice	\$4.17 5.45 5.45 5.45	25.55 4.05 14.05 14.05	5.16 1.91	5.25
But	Hott	ers, con- mon to choice	\$5.53 6.05 6.15	8258 8258	6.00 5.45	97-9
-	spunds	Com- mon.	55.30 6.53 6.63 7.06 8.63	5.59 47.89 5.00	5.5.4 5.5.4 5.2.4	6.32
	Lightweight (1,100 pounds down),	Me- dium.	\$6.42 6.68 7.16 7.29 7.63	8385 8422	54.14 88.18	7. 33
	reight (Good.	77.75 77.75 77.75 77.75 8.10	99.99	9.47 9.63	8.67
Beef steers.	Lightw	Choice and prime.	\$\$ a. \times \cdot	9, 09, 10, 21, 21, 21, 21, 21, 21, 21, 21, 21, 21	11.41	9. T.
Beef	eight).	Com- mon.	85.55 6.75 6.75 7.07 7.07	7. 01 6. 30 6. 34	8. 8. 9. 8. 8. 8.	6. 33
	heavyw mds up	Me- dium.	88.88 7.7.7.7 8.68 7.13 8.68 7.13 8.68	\$.76 8.53 9.04	225 238	7.66
	Medium and heavyweight (1,101 pounds up).	Good.	27.7.7.5 88.27.8 19.27.8	8.99.99 8.53.49	9.66 5.75 7.75	5 73
	Medin (1	Choice and prime.	8.8.8.8.8 4.6.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.8.	9,5,5,5 5,0,7,0,0	25.6	9.77
	<u> </u>	Months.	nuary bruary rrh rrl	y. gust. ytember.	tobercember	Average

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,	\$5.12 4.99 4.33	4.54 3.99 4.00	4.48		88 64 44 44 46 60 60 60 60 40 40 40 60 60 60 60 60 60 60 60 60 60 60 60 60	0.00
-	\$6.73 6.51 5.64	5.64 5.39 5.78	5.94		80 81 81 81 82 83 83 83 84 84 84 84 84 84 84 84 84 84 84 84 84	0°0
-	\$6.90 7.08 6.58 6.37	6.48 6.03 6.22	6.52		100 100 100 100 100 100 100 100 100 100	
-	\$6.86 7.08 6.64 6.64	6.63 6.16 6.28	6.61		68.0000 3.0000 5.0000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000	5.00
	\$6.04 5.60 7.20	6.17 5.96 5.89	6.26		25 25 25 25 25 25 25 25 25 25 25 25 25 2	4.82
	\$7.56 6.98 8.18 8.70	8.21 7.61 7.86	7.87		88 40 40 40 40 40 40 40 40 40 40 40 40 40	6.09
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	\$3.28 3.36 3.14	3.00 3.00 3.00	3.14		25.2 25.2 3.3 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2.2 2	7. SH
	\$4 60 4.82 4.39 4.38	4.4. 4.4. 4.6.	4.53	PAUL.	85 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4.42
Contract of the last of the la	\$5 64 5.92 5.55 5.40	5.42 5.24 5.24	5.47	ST.	#44000 00000 040	5, 14
	\$7.08 7.35 6.93 6.82	6 67 6.49 6.57	6.84	SOUTH	65	6.11
	\$6.96 6.94 5.92 5.38	5.24 5.72	5.86		ကိုးယ္လေလ့လ လွယ္လဲ လွယ္လ	6.15
	\$7.70 7.84 7.79 7.79 7.56	7.46	7.63		86.98 6.88 6.88 6.88 7.77 7.77 7.89 7.70 7.70 7.68	7.41
	88.47 9.34 9.52	9.78 9.72 10.10	9.40		တွ်တော်တင်းတဲ့ တကာ	8.26
	\$9.11 9.71 10.20 10.65	11.46 11.65 11.94	10.67			:
	8.2.2.8 8.2.2.8	5.94 5.58 6.03	6.30		ညီလျှင်းတွင် တိုင်တိုင် လိုင်လိုင်	6.24
	\$7.64 8.02 8.03 10		7.92		\$ 1.1.1. 1.8.1.1. 1.1.1.	7.40
	88.44 9.06 9.48 9.71	10.01 9.97 10.22	9.56		97	8,16
	\$9.11 9.85 10.28 10.66	11111 888 888	10.78			-
	ine ily ugust sptember	etober ovember	Average		nuuary ebruary arch pril pyril nu ily. ugust ugust ecober. covember	Average

2 Did not report previous to June, 1922.

Table 391.—Cattle and calves: Trend of average farm prices and average market prices at Chicago, 1910-1922.

Ankannak harryapak hasindasek trapak kirinnin kirinn e	Farm	price.	Average price at	market Chicago.	I	Price relatives, 1913 -100					
Year.	Beef cattle,	Veal calves,	Beef	Veal	Farm	price.	Marke	t price.			
	weighted average.	ghted sample	simple average.	simple average.	Beef cattle.	Veal calves.	Beef cattle.	Veal calves.			
1910	\$1.76	\$6 41	\$6, 83	\$8, 25	80, 5	85 7	83, 2	81. 0			
1911	4.45	6.06	6, 40	7, 91	75 3	81 0	78, 0	77 6			
1912	5.15	6.45	7, 80	8, 91	87, 1	86.2	95, 0	87. 7			
1913	5.91	7.48	8, 21	10, 19	100, 0	100.0	100, 0	100. 0			
1914	6.24	7.83	8, 65	10, 10	105, 6	104.7	105, 4	99. 1			
1915	6.00	7, 63	8, 13	10.08	101. 5	102, 0	102.7	98. 9			
1916	6.47	8, 53	9, 33	10.98	109. 5	111, 4	113 6	107. 8			
1917	8.16	10, 47	11, 67	13.78	138. 1	140 0	142.1	135 2			
1918	9.14	11, 85	14, 60	15.92	159. 7	158, 8	177.8	156. 2			
1919	9, 56	12.74	15, 45	16, 85	161, 8	170 3	188, 2	165 2			
1920	8, 32	11.81	13, 32	11, 58	140, 8	157 9	162, 2	143.1			
1921	5, 16	7.87	8, 16	9, 36	92, 4	105, 2	99, 1	91.8			
1922	5, 48	7.69	8, 82	9, 15	92, 7	102, 8	107, 4	89.8			

¹ Farm prices from Division of Crop and Live Stock Estimates; market prices compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

Table 392.—Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts.

	choice.	Beef, whole- sale price.			Beef, retail prices.												
	to ch	Good		Nat			Sirloin steak. Round steak.					ık.					
Date.	cent	ste Cl	or, ni- go.	sid Ne Yo	w	Ci ca		Ne Yo	ew rk.	Av age cita	er- , 51		lu- go.		ew rk.	age	er- e, 51
	Live steers, g	· Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents,	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of hve steers.	Cents.	Per cent of live steers.
1913 1914 1915 1916 1917	9.0 8.7 9.6	13. 0 13. 6 12. 9 13. 8 16. 7	151 148 144	12. 5 13. 5 12. 6 13. 4 16. 4	150 145 140	23, 2 25, 5 25, 7 26, 8 29, 3	283 295 279	25, 9 26, 8 26, 8 28, 1 32, 6	298 308 293	25. 4 25. 9 25. 7 27. 3 31. 5	288 295 284	20, 2 22, 4 22, 1 22, 6 25, 8	219 254 235	25. 0 26. 3 26. 0 27. 4 32. 6	292 299 285	22.3 23.6 23.0 24.5 29.0	262 264 255
1920 1921 1922	17. 5 14. 5 8. 8	22, 1 23, 3 23, 0 16, 3 15, 0	133 159 185	20. 9 21. 5 20. 8 14. 8 13. 8	123 143 168	35, 3 38, 3 43, 0 38, 0 37, 2	219 297 432	10. 9 13. 9 46. 9 42. 1 11. 1	251 323 478	38, 9 41, 7 43, 7 38, 8 37, 4	238 301 441	32, 3 34, 3 36, 3 31, 0 29, 1	196 250 352	42.3 45.7 47.3 41.8 30.6	261 326 469	36. 9 38. 9 39. 5 34. 4 32. 3	222 272 391
January 1922. February March April	8. 6 8. 7 8. 4	15. 4 11. 5 14. 5 14. 5	169 167 173	12. 7 12. 8 13. 1 12. 9	149 151	36. 0 34. 3 34. 5 35. 4	399 397	39, 2 38, 8 39, 1 39, 5	451 449	35, 3 35, 2 35, 9 36, 4	409	28, 5 27, 2 27, 2 27, 9	316 313	37. 9 37. 2 37. 2 37. 9	433 428 451	30, 4 30, 2 30, 8 31, 4	351 354 374
MayJuneJulyAugust	8. 9 9. 7 10. 4	14. 5 14. 8 14. 8 15. 5	163 153 149	14. 1 14. 1 14. 6 13. 6	158 150	36. 7 37. 7 38. 3 38. 6	424 395	40, 3 42, 0 43, 1 43, 3	472 444	37. 7 38. 4 39. 2 39. 0	432 404	28, 4 29, 5 30, 1 30, 8	332 310	39. 4 40. 2 41. 9 42. 1	$\frac{452}{432}$	32. 5 33. 5 34. 2 34. 1	376
September. October November. December.	10. 7 10. 2 10. 5 10. 6	15. 5 15. 5 15. 5 15. 5	145 152 148 146	14. 5 14. 8 13. 7 14. 6	145 130	39. 1 38. 9 38. 6 38. 1	381 368	42. 9 42. 3 41. 9 40. 6	415 399	38. 7 38. 3 37. 3 36. 8	376 355	30. 6 30. 1 29. 9 29. 4	295 285	41, 2 40, 9 40, 0 39 1	401 381	33. 6 33. 1 32. 0 31. 5	324 305

¹ Wholesale prices of good native steers in Chicago; native sides in New York; retail prices of sirloin

Table 392.—Prices of live steers in Chicago, wholesale prices of beef in Chicago and New York, and retail prices of certain beef cuts—Continued.

					Bee	f, retail	prices	3.					
		(Chuck	roast.			Rib roast.						
Date.	Chicago. New Y		York.	average, 51 cities.		Chicago.		New York.		Average, 51 cities.			
	Cents.	Per cent of hve steers.	Cents.	Per cent of hve steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	Cents.	Per cent of live steers.	
1913 1914 1915 1916	15. 4 16. 9 16. 7 16. 6 20 3	181 188 192 173 159	16. 0 16. 8 16 5 17. 3 21. 3	187 190 180	16. 0 16. 7 16. 1 17. 1 20. 9	188 186 185 178 163	19.5 20.7 21.3 21.9 24.1	230 245	21. 8 22. 1 22. 2 23 2 27. 4	246 255 242	19. 8 20. 4 20. 1 21. 2 24. 9	227 231	
1918 1919 1920 1921 1922	25. 9 26 7 25. 9 20. 7 19. 1	158 153 179 235 201	28. 5 29. 9 28 9 23. 1 21. 4	171 199 262	26. 6 27. 0 26. 2 21. 2 19. 7	154 181 241	29. 7 31. 4 33. 7 30. 2 28. 8	181 179 232 343 303	40. 5 36 4	223 279 414	30.7 32.5 33.2 29.1 27.6	229 331	
1922. January February March April	18. 8 18. 2 18. 5 18. 5	229 212 213 220	21. 4 20. 9 20. 8 20. 6	239	19. 0 18. 9 19. 3 19. 5	220 222	28. 8 28. 1 27. 7 28. 4	351 327 318 338		395 397	26. 7 26. 5 26. 9 27. 3	308 309	
May June July August	19. 0 19. 3 19. 6 19. 3	221 217 202 186	20.8 21.3 21.7 21.8	239 224	19. 9 20. 1 20. 3 20. 0	226 209	29. 0 28. 9 29. 1 28. 8	325 300	35. 5 35. 8 35. 8 36. 0	402 369	27. 9 28. 2 28. 6 28. 2	317 295	
SeptemberOctoberNovemberDecember	19. 5 19. 7 19. 8 19. 5	182 193 189 184	22. 0 22. 3 21. 8 21. 7	219	20. 0 19. 9 19. 6 19. 4	195 187	29. 0 29. 5 29. 5 28. 9	289 281	36. 0 36 1 35. 3 35. 3	354 336	28. 1 28. 0 27. 5 27. 3	262	

Table 393.—Monthly statement of the livestock and meat situation, 1922.

CATTLE, CALVES, BEEF, AND VEAL.

[Numbers and quantities in thousands, i. e., 000 omitted.]

	January.	February.	March.	April.	May.	June.
Estimated number of cattle on farms in United States 1. Receipts, cattle and calves, at public stockyards. Stocker and feeder slupments from public stockyards. Inspected slaughter. 2 Cattle. Calves. Average live weight: 3 Cattle. Dounds. Calves. do.	65,632 1,628 233 642 289 1,020 164	65, 895 1, 417 243 569 279 1, 005 157	66,813 1,622 282 674 391 1,013 143	67, 863 1, 470 235 590 365 1, 009 134	70, 226 1, 878 365 702 401 1, 002 147	71, 079 1, 759 318 725 389 982
Average dressed weight: 3 Cattledo Calvesdo	554	547	559	567	561	546
	91	89	81	78	83	88
Total dressed weight (carcass): 3 Beef	355, 462	311, 441	376,397	334,718	394, 069	395, 619
	26, 255	24, 952	31,851	28,353	33, 323	34, 073

Reports of Division of Crop and Live-Stock Estimates, Bureau of Agricultural Economics.
 Reports of Bureau of Animal Industry.
 Reports of Division of Statistical and Historical Research. Bureau of Agricultural Economics.

Table 393 .- Monthly statement of the livestock and meat situation, 1922-Continued. CATTLE, CALVES, BEEF, AND VEAL-Continued.

Name of the second seco							
		January	February	March	April.	May	June.
Storage, 1st of month: 3							_
Fresh beef	pounds.	68, 495	61, 522	55, 785	50,772	45, 341	37,548
Cured beef	do	16, 313	16,771	17,997	18,714	19, 166	19,304
Imports:4	do	867	536	1,001	2, 221	2,756	3, 143
Fresh beef and yeal	do	5		38	2, 221 316	23	110
Exports 45				000		240	
Fresh beel and veal. Cured beef. Canned beef. Oleo oil and stearm 6.	00	523 1,765	320 2,051	203 2, 799	2,037	240 1,928	213
Canned beef	do	155	207	281	132	278	2, 547 237
Oleo oil and stearm 6	do	5,706	8,672	10,837	9, 329	14, 180	13,583
Tallow		1,878	1,774	4, 278	2, 497	3,683	1,592
Average cost in United Sta	tes of all						1
classes and grades—							
Cattle.		\$5.02	\$6.05	\$6.82	\$7.11	\$7.33	\$7.37
Calves		\$8, 22 \$8, 54	\$9.16 \$8.60	\$8, 05 \$8, 57	\$7.67 \$8.48	\$9,05 \$8,50	\$8, 96
Catile, good steers (Chicaeo) Beef carcusses, good grade	(oastern					4.7 0.0	440.00
markets)		\$13.36	\$12.79	\$13.36	\$13.45	\$14.06	\$11.55
Venl careases and grade	Coostorn	\$8, 36	\$9.16	\$8, 26	\$6.97	\$8.46	\$8.89
markets) Veal calves (Chicago) Veal carcasses, good grade markets).	14-20-00-11	\$18,92	\$18.94	\$16.74	\$11.41	\$15.86	\$15 28
Management of the prince of the prince of the part of							
							Total,
	July.	August.	Septem- ber.	October.	Novem- ber-	Decem-	January-
	·	,,,	per.		INT.	ber.	Decem- ber.
Estimated number of cattle on							
farins in United States 1	71,145	70, 751	69,636	69, 176	69,176	69,045	
Receipts, cattle and calves, at public stockyards	1,709	2, 149	2,397	2,936	2, 427	1,825	23, 217
Stocker and feeder shipments	·			i i	'	1, (/2.//	20, 211
from public stockyards	223	469	630	861	710	357	4, 929
Inspected slaughter. 2 Cattle	697	761	796	854	859	779	8,678
Calves	330	345	353	383	318	309	4, 182
Calves. Average live weight: 8		1					,
Caldepointas	995. 172	973 193	965 200	958 197	946 189	958 176	
Average dressed weight: 3		155	200	1.00	103	1,0	
Cattledo	538	526	514	501	490	504	
Cattle pounds. Calves do Average dressed weight: Cattle do Calves Calves for pounds Calves do Calves Deef pounds Veal do	98	109	111	105	106	102	
Beefpounds	375, 170	400, 215	409,656	442,938	421,508	392, 810	4,610,003
	32, 161	37, 598	39, 109	40, 355	36,993	31,368	396, 391
Storago, 1st of month: 3	21 500	ייסע קיים	00 010	24 014	(7 Am		,
Fresh beefdo Cured beefdo	31,593 19,113	27,727 19,301	28, 210 20, 081	34,611 18,961	17, 929 19, 884	73, 027 22, 602	
Imports: 47	1				· ·	,	
Fresh beef and vealdo	3,576	2,362	10, 533	4,501	3,146		
Tallowdo	851		153				
Fresh beef and vealdo	214	328	228	410	516	459	3,918
Cured beef do do Canned beef do Oleo oil and stearin 6 do	2,016	2,621	2,811	2,369	1,888	1,346	3,918 26,208
Oleo oil and steerin 6 do	273 11,681	258 8, 993	287 9,071	199 9,095	101	113	2, 551 119, 375
Tanow	2,569	2,357	2, 142	1,718	10,773 1,649	7, 452 2, 239	31,376
Prices per 100 pounds:		,			,	-,	2.,
Average cost in United States of all classes and	1	1	1				
grades	I	1	1				
Cattle	\$7.36	\$6.94	\$6.53	\$6,09	\$5,63	\$6.07	
Carves	\$7,85	\$8.02	\$7.69	\$6.96	\$7.18	\$7.79	
Cattle, good stoers (Cincago)	\$ 9.46	\$9.04	\$9.93	\$10.20	\$10.56	\$10,64	********
Beef carcasses, good grade (eastern markets)	\$15, 80	\$15.97	\$16.98	\$16,92	\$15, 86	\$15.59	
Veal calves (Chicago)	\$8,90	\$10.88	\$11.92	\$9.65	\$8.91	\$9.42	
Veal carcasses, good grade (eastern markets)	\$16.37	\$16.54	\$18, 22	\$16,75	\$15, 42	\$16.40	
Comment and the second	410.01	\$10.174	910.22	1 101 (1)	910, 42	410.40	********

¹ Reports of Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
2 Reports of Bureau of Animal Industry.
3 Reports of Division of Statustical and Historical Research, Bureau of Agricultural Economics.
4 Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
Other figures from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of

Table 394.—Cattle and calves: Yearly receipts and shipments at principal markets and all markets, 1900 to 1922.

[000 omitted.] RECEIPTS

Year.	Chi- cago.	Den- ver.	East St Louis	Fort Worth	Kansas City.	Oma- ha.	St. Jos- eph	St. Paul.	Sioux City	Total.	All other mar- kets.	Total all mar- kets.
1900	2, 865 3, 213 3, 193 3, 704 3, 527	240 227 324 286 265	698 892 1,113 1,140 1,074	(2) (2) 132 447 643	2, 083 2, 127 2, 279 2, 137 2, 163	828 818 1,011 1,071 944	390 439 517 625 587	221 190 306 303 389	300 309 405 379 331	7, 625 8, 215 9, 280 10, 092 9, 923	(3) (3) (3) (3) (3)	(3) (3) (3) (3) (3) (3)
1905 1906 1907 1908 1909	3,791 3,742 3,727 3,461 3,340	294 329 307 420 426	1,124 1,121 1,133 1,145 1,241	813 838 1,022 1,069 1,197	2,423 2,556 2,670 2,458 2,660	1,026 1,079 1,159 1,037 1,125	547 606 616 584 592	489 487 520 463 497	403 385 410 385 426	10, 910 11, 143 11, 564 11, 022 11, 504	(3) (3) (3) (3) (3)	(3) (3) (3) (3) (3)
1910 1911 1912 1913	3, 553 3, 453 3, 158 2, 888	399 298 414 499	1,208 1,067 1,200 1,100	1,071 884 1,039 1,186	2,507 2,370 2,147 2,319	1,224 1,174 1,017 962	665 513 494 450	604 539 524 532	439 487 431 394	11,570 10,785 10,424 10,330	(3) (3) (3) (3)	(3) (3) (3) (2)
1914 1915 1916 1917	2,601 2,685 3,250 3,820	413 421 601 653	1,041 992 1,200 1,405	1, 176 944 1, 081 1, 960	1,957 1,963 2,331 2,902	939 1,218 1,434 1,720	356 441 480 670	585 856 941 1,197	368 534 602 707	9, 466 10, 057 11, 920 15, 034	(3) 4,496 5,756 8,032	(3) 14,553 17,676 23,066
1918	4, 448 4, 253 3, 849 3, 540 3, 934	728 824 617 482 656	1,509 1,473 1,254 1,077 1,400	1, 665 1, 267 1, 134 984 1, 084	3, 320 3, 085 2, 500 2, 469 2, 983	1,993 1,975 1,603 1,435 1,744	870 750 643 558 655	1,430 1,491 1,373 985 1,387	818 814 752 620 747	16, 781 15, 932 13, 725 12, 150 14, 590	8,514 8,691 8,472 7,637 8,627	25, 295 24, 623 22, 197 19, 787 23, 217
Marian de la companya de la companya de la companya de la companya de la companya de la companya de la companya		<u>'</u>			SHIPM	ENTS	1 ,	<u> </u>			-	·
1900 1901 1902 1903 1904	949 1, 051 937 1, 296 1, 350	(3) (3) (3) (4) (3)	166 224 316 318 308	(5) (5) (5) (5) (5)	(3) (3) (3) (3)	274 239 365 301 261	92 82 112 174 140	154 126 230 212 275	187 189 283 279 230	1, 822 1, 911 2, 243 2, 580 2, 564	(8) (3) (3) (3) (3)	(3) (3) (3) (3) (3)
1905	1, 437 1, 376 1, 477 1, 387 1, 297	(3) (3) (3) (3)	359 365 371 347 374	(5) (5) (5) (5) (5)	(3) (3) (3) (3) (3) (3)	315 303 362 330 374	133 143 150 178 185	352 353 379 302 322	237 210 227 213 232	2, 833 2, 750 2, 966 2, 757 2, 784	(3) (3) (3) (3) (3)	(3) (8) (8) (8) (3)
1910 1911 1912 1913	1,317 1,245 994 1,001	(3) (3) (3) (3)	370 309 315 344	347 297 427 549	(3) (3) (3) (3)	425 446 418 432	161 157 158 157	369 318 293 322	213 249 240 228	3, 232 3, 021 2, 845 3, 033	(3) (3) (3) (3)	(3) (3) (3) (3) (3)
1914 1915 1916 1917	824 392 726 867	(3) 359 512 521	306 269 313 317	459 506 511 838	(8) 1,032 1,028 1,202	394 536 591 723	121 175 149 211	328 523 556 723	197 289 369 410	2,632 4,081 4,755 5,812	(3) 1,771 2,198 3,661	(3) 5,852 6,953 9,473
1918 1919 1920 1921 1922	1, 025 1, 221 1, 247 1, 163 1, 137	544 642 471 360 532	370 454 510 611 871	562 475 544 412 467	1,422 1,467 1,209 1,244 1,534	855 840 689 635 829	299 220 234 188 251	896 935 634 391 609	432 459 410 346 447	6, 405 6, 713 5, 948 5, 350 6, 677	3,906 4,044 3,883 3,250 3,988	10,311 10,757 9,831 8,600 10 665
1 Prior to 101					mbooka o	e at sales			00.017	eagnant	6 maron a	bolinmo

¹ Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

Not in operation.
 Figures not available prior to 1915.
 Prior to 1915 figures compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from the Fourteenth Annual Report of Bureau Animal Industry, 1907 to 1914, from Merchants Exchange Annual Report); subsequent figures from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau Agricultural Economics.

Table 395.—Cattle and calves: Monthly and yearly receipts at Chicago, East St. Louis, Kansas City, and Omaha, combined, 1910-1922.

[000 onutted.]

ha rannament comment of the							, -	1	,				
Year,	Jan.	Feb.	Mar	Apr.	May	June	July.	Aug	Sept	Oct	Nov	Dec	Total.
1910 1911 1912 1913	611 700 660 606 526	515 516 486 486 445	590 555 502 481 481	498 498 515 523 415	553 612 181 452 401	630 620 462 525 473	662 680 516 568 457	915 764 667 688 565	995 766 868 923 781	1,040 1,044 1,010 824 813	834 757 674 606 558	617 555 676 588 581	8, 490 8, 067 7, 520 7, 270 6, 532
5-year average	627	490	522	496	501	542	577	720	867	916	686	603	7,576
1915 1916 1917 1918 1919	518 606 807 763 998	377 534 567 709 682	523 558 533 779 646	465 452 600 881 706	461 558 708 688 668	474 530 701 705 641	462 535 773 967 881	611 807 808 911 926	730 861 1,029 1,347 1,131	834 1, 146 1, 309 1, 320 1, 362	798 915 1, 148 1, 167 1, 169	605 716 864 1,032 976	6, 858 8, 218 9, 847 11, 269 10, 786
5-yesi average	738	571	608	621	617	610	721	813	1,020	1, 194	1,039	839	9, 396
1920 1921 1022	847 714 717	642 520 617	698 679 682	532 608 577	642 625 748	696 675 750	669 542 719	868 863 981	1, 032 866 1, 097	932 1,019 1,339	1, 020 795 1, 045	618 585 789	9, 205 8, 521 10, 061

¹ Prior to 1915 figures compiled from yearbooks of stockvaid companies, subsequent figures compiled from data of the reporting service of the Live Stock, Meats, and Wood Division, Bureau of Agricultural Economies.

Table 396.—Cattle and calves: Yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1919-1922.

[000 omitted.]

`												
Market.		Rece	ipts.		Local slaughter				Stock	er and	feeder nts.	ship-
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Albany, N. Y. Amarillo, Tex. Atlanta, (ta. Augusta, Ga. Baltimore, Md.	39 185 18 14 219	147 21 13	23 113 29 12 279	30 14	4 1 11 9 145	3 1 15 8 170	2 1 18 8 156		1 122 4 3 5	1 91 1 2 5	(2) 84 3 3 3	
Billings, Mont Birmingham, Ala. Boston, Mass Buffalo, N. Y Chattanooga, Tenn	16 24 98 749 12	24 75 677	61 609	76 637	22 202 10	$^{(2)}_{23}$ $^{190}_{10}$	(2) 19 167 11	192	9 1 39 2	(2)	(²) 8 4	7 4
Cheyenne, Wyo. Chicago, Ill. Cincinnati, Ohio Cleveland, Ohio. Columbia, S. C.	47 4, 253 460 305 6	441 281	3, 540 454	3,934 446 281	3,032 305 244 6	2,603 283 228 6	2,377 302 228 5	252	509 28 6 (²)	417 28 3	332 22 6	
Columbus, Ohio. Dallas, Tex. Dayton, Ohio. Denver, Colo. Detroit, Mich.	1 0	2 8 33 617 234	3 8 31 482 201	8 33 656	(2) 9 25 171 189		1 8 27 122 168	124	(²) (²) 483 17	(²) (¹) 407 16	274 14	
Dublin, Ga East St. Louis, III. El Paso, Tex. Emeryville, Calif. Erie, Pa	1,473 203 36 38	38	1, 077 170 35	1,400 149	1,019 24 36 13	$\frac{21}{38}$	(3) 466 24 35	(2) 530 20 35	(2) 234 151 (2)	(2) 168 115		
Evansville, Ind	1,267 11 515	1, 134 14 597		1,084 15 509	2 245	24 558 3 257 6	21 576 1 230 3	23 620 1 238 3	1 327 5 50 (²)	278 5 48 (2)	1 172 3 41	3 225 7 44 1

¹ Compiled from data of the reporting service of the Live Stock. Meats, and Wool Division. Bureau of

Table 396.—Cattle and calves: Yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1919-1922—Continued.

Market.		Rece	ipts.		L	ocal sl	aughte	r.	Stock	rer and mei		r ship-
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Jersey City, N. J Kansas City, Mo Knoxville, Tenn Lafayette, Ind Lancaster, Pa	745 3, 085 21 17 239	2,500 21 19	2,469 18 18 205	21	745 1,617 9 7 45	833 1,264 11 8 55	843 1,200 10 9 37	13 8 48	1,036 8 2 95		1 1	1, 151 6 1
Logansport, Ind Louisville, Ky Marion, Ohio. Memphis, Tenn Milwaukee, Wis	246 13 6 398	32 19	246 7 8 439		(2) 87 1 1 334	(2) 87 1 (2) 390	(2) 81 1 5 402	(2) 89 2 8 458	(2) 36 1 (2) 16	(2) 30 (2) 2 15	(2) 37 (2) 1 12	(2) 42 (2) 2 13
Montgomery, Ala	52 83 2 121	99	50 4 96 1 36	1	3 41 (2)	4 46	42 	4 2 47	9 11 1 1	28 14 (2)	10 (2) 12 (2) (2)	(2) 15 3
New Orleans, La	191 402 67 104 593	49 64	188 301 57 76 315	258 88 91	162 400 19 11 368	174 315 14 16 228	300 25 13	257 14 12	18 25 48 136	16 28	16 12 25 80	21 15 23 80
Omaha, Nebr Pasco, Wash Peoria, III Philadelphia, Pa Pittsburgh, Pa	1,975 6 27 201 616	8 36 226	1,435 3 43 227 745	6 40 264	1, 136 (2) 18 196 151	$\begin{array}{c} 914 \\ {}^{(2)} \\ 18 \\ 221 \\ 171 \end{array}$			656 (2)	(2) 1	443 4	621 7
Portland, Oreg	125 217 29 750 1, 491	643	120 79 28 558 985	199 32 655	62 17 531 530	70 19 410 710	20 370	403	21 7 2 124 416	5 2 103	9 4 2 103 270	16 2 176
San Antonio, Tex Seattle, Wash. Sioux City, Iowa. Sioux Falls, S. Dak Spokane, Wash.	250 66 814 8 74	58 752 14	151 47 620 17 41	198 46 747 33 49	14 64 363 1 36	37 56 342 6 35	36 46 273 7 23	13	138 (²) 329 1 28	238	26 $(^{2})$ 240 4 7	83 (2) 335 11 12
Tacoma, Wash	29 57 23 311	22 64 27 242	25 25 28 285	28 25 29 407	24 13 20 133	22 18 25 84	25 14 27 83	27 12 28 93	3 4 1 116	(2)	(2) 4 (2) 132	(2) 4 ₂₀₂
Total	24, 623	22, 197	19, 787	23, 217	13, 633	12, 194	11,078	12, 435	5, 286	4, 102	3,504	4,929

² Less than 500.

Table 397.—Cattle and calves: Monthly and yearly stocker and feeder shipments from all public stockyards, 1916–1922.

[000 omitted]

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1916 2	221	197	250	262	289	264	171	330	464	682	461	256	3,847
1917.	260	213	249	306	401	353	262	330	588	768	729	344	4,805
1918.	222	214	319	385	491	393	274	418	604	704	623	366	5,013
1919.	364	264	277	391	442	272	236	397	611	839	723	470	5,286
1920.	349	240	241	244	323	272	218	314	488	580	553	280	4,102
1921.	205	166	236	238	214	209	122	355	395	622	497	245	3,504
1922.	233	243	282	235	365	318	223	469	630	864	710	357	4,929

¹Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

Table 398.—Cattle and calves: Monthly and yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1922.

[000 omitted.]

Buffalo, N. Y: Receipts	7 18 (2) 4 281 4 211 4 14 33 33 24 1 1 14 23	64 19 (2) 353 266 21 36 22 1	56 16 (2) 332 254 71 38 21	51 15 (2) 283 220 12	45 14 (2) 307 227 23	47 14 1 319 227 38	58 21 2 407 283 61	55 19 2 391 243 70	55 13 (2) 332 219	637 192 7 3, 934 2, 797
Local slaughter.	7 18 (2) 4 281 4 211 4 14 33 33 24 1 1 14 23	19 (2) 353 266 21 36 22	16 (2) 332 254 71 38	15 (2) 283 220 12 36	(2) 307 227 23	319 227	2 407 283	19 2 391 243	13 (2) 332 219	192 7 3,934
Shipments (2) (1) (2)	281 211 1 14 6 33 6 24 1 1	353 266 21 36 22	332 254 71 38	283 220 12 36	307 227 23	319 227	407 283	391 243	332 219	3,934
Receipts	1 211 1 14 5 33 5 24 1 1	266 21 36 22	254 71 38	220 12 36	227 23	227	283	243	219	3,934 2,797
Stocker and feeder Shipments	1 14 5 33 5 24 1 1	21 36 22	71 38	12 36	23				l	2,797
Cincinnati, Ohio: Receipts	33 24 1 1 1 23	36 22	38	36		38	61	1 70		
Receipts	24 1 1 1 23	22				l			31	409
	1 23	1		18	38 19	45 20	50 21	37 17	32 16	446 252
shipments 1 1		1	1	1	4	4	6	3	2	26
Cleveland, Ohio: Receipts	2 21	27	23	22	25	26	26	22	25	281
Local slaughter 18 18 2 Stocker and feeder	1	24	21	20	22	22	22	21	22	253
shipments (2) (2) (2) Denver, Colo.:	(2)	(2)	1	(2)	1	1	1	1	(º)	5
Receipts 13 33 4		88 13	17 11	30 11	38 10	55 10	113 12	90 12	51 9	656 124
Stocker and feeder shipments 27 18 2:	16	66	38	17	18	36	70	64	21	413
East St. Louis: 85 66 7: Local slaughter 38 30 38		92 45	111 46	106 43	158 56	176 59	207 78	154 43	114 38	1,400 530
Stocker and feeder shipments 9 9 1		10	15	11	24	39	56	55	28	275
Fort Worth, Tex.:	1	83	76	81	109	132	157	129	88	1.084
Local slaughter 41 30 3. Stocker and feeder	20	26	30	49	63	78	102	80	66	620
shipments 7 9 2	3 28	37	22	8	7	16	24	30	14	225
Receipts 38 33 3 Local slaughter 22 18 2		40 21	15 21	38 18	52 19	50 19	57 21	40 18	42 20	509 238
Stocker and feeder	2 1	2	3	3	4	5	10	6	4	44
Jersey City, N. J.: Receipts		82	75	72	83	78	87	62	71	905
Kansas City, Mo.: 66 76 7.	80	82	75	72	83	78	87	62	71	904
Receipts 188 160 15 Local slaughter 95 78 9 Stocker and feeder		158 99	165 98	213 117	357 155	406 150	481 175	351 155	216 116	2,983 1,407
shipments 50 55 5	1 39	44	43	49	142	179	233	181	82	1,151
Oklahoma, Okla.: Receipts		19 10	22 12	36 20	45 22	48 22	39 19	37 24	33 25	38 2 219
Stocker and feeder shipments 3 4 Omaha, Nebr.:	8 4	8	4	7	8	11	7	11	5	80
Omans, Nebr.: Receipts		145 95	139	117 78	159 80	196 75	244 81	149 81	127 75	1,714 916
Stocker and feeder shipments 34 39 3		15	20	25	67	112	128	77	12	621
Pittsburgh, Pa.: Receipts		57 17	68 14	85 14	98 15	97 13	87 15	84 13	71 12	867 161
St. Joseph, Mo.:			l					65		655
Receipts		43 31	37 28	40 26	70 39	85 44	96 46	40	51 37	403
Stocker and feeder shipments 7 9 St. Paul, Minn.:	7 4	4	4	7	25	33	43	21	12	176
Receipts 73 68 9		93	99 67	127	153	147	180 85	162 86	106 68	1,387 783
Stocker and feeder shipments 15 15 2	1	62	23	66 37	73 72	68	67	56	26	439
shipments 15 15 2 Stour City, Iowa:			1		1				50	747
Stoux City, Iowa: Receipts		65 28	56 29	53 22	61 24	78 25	90 18	68 29	28	301
Stocker and feeder shipments 20 23 2	3 13	25	18	20	31	48	59	34	18	335

¹ Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau

Table 399.—Beef, fresh, chilled, and frozen: Yearly exports and imports, by principal countries.

[000 omitted.] EXPORTS.

				Ti.	XPUR	rs.					
Country.	1911	1912	1913	1914	1915	1916	1917	1918	1019	1920	1921
Exported by-											
Argentina Australia ¹ Brazil		755, 849 142, 210		813, 427 292, 066	114,676	242,032	870,458 180,249 146,500	1,092,631 119,990 133,397	121,079	896, 285 179, 642 134, 255	
British South Africa Canada	240	312 1,013		488 17.837	5,986	17,687	47,256	18,656 2126,334	44,409	12,662	3 2, 124 32, 256
Denmark France Netherlands	27,466 6,789 32,890	57,853 7,292	33,241 12,212	38,089 5,715	50, 181 41, 626	34,220 42,177	35,370 2,056 3,741	21,337 1,547 54	17,730 3,063	38,670 7,598	16, 496 8, 558
New Zealand Sweden United States	27,307 19,720 28,782	30, 803	30,636 8,604	69,927 12,280	86,477 16,521	112,071 7,186	99,740	82,308 10	87,493 3,694	84, 895	102,691 21,957
Uruguay	16,933		109, 268	153,016	215, 115	157,568	158, 398	106,247			10,041
				II	MPORT	rs.					
Imported by-											
Austria-Hun- gary. British South	10,465	3,374	158							5 36, 171	5 31,097
Africa Canada	8,246 874	6, 154 198 52	5,043	1,504	1,916	4,228	17 14,663 65	2, 233	1,460 557	89 2,368	³ 1 89
Cuba Denmark France	1,164 5,522	988 5,250	415 5,098	1,387	1,297			147 458,495			
Germany Netherlands Sweden	39,734 348 843	2,317 1,157	7,413 1,442	3,768 453	52	85 82	291	12 10,755	17,466	13,503	59,998
Switzerland United King- dom	5,371 824 443	,	4,472 1,030,771			1,276 789,826	1	3	126	826 1,032,709	1,200
United States			35,822	254, 319	118,590	39,772	22,072	23, 339			

¹ Year beginning July 1, subsequent to 1913. 2 Unclassified. 2 Intercolonial trade excluded. 4 Includes some "other than beef."

Table 400.—Beef products: 1 Monthly and yearly exports, all products combined, United States, 1910-1922.2

[000 omitted.]

					LUCO OT	mroou.	l						
Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov	Dec	Total.
1912 1913	16, 540 14, 266 12, 863	16, 265 15, 739 13, 657	23, 412 19, 203 16, 424	30, 692 19, 838 14, 203	10, 030 15, 967 15, 686	32, 904 13, 804 19, 971	29, 171 16, 754 15, 388	25, 841 15, 574 13, 280	25, 130 10, 871 11, 895	21, 002 10, 518 10, 670	14, 962 8, 068 10, 778	15, 373 8, 908 10, 361	223, 524 291, 322 169, 510 165, 176 181, 061
5-year average	14, 174	14, 792	18, 778	19, 764	21, 105	20, 644	18, 363	16, 896	16, 235	14, 817	16, 724	13, 827	206, 119
1916 1917 1918 1919	21, 461 32, 680 43, 475 42, 078	28, 422 25, 932 31, 892 30, 685	26, 378 35, 895 87, 199 27, 164	33, 361 51, 974 72, 882 39, 559	35, 105 51, 950 96, 982 28, 990	53, 830 33, 296 92, 150 43, 961	28, 242 19, 911 53, 583 25, 496	24, 679 42, 278 69, 217 28, 184	25, 783 31, 773 49, 124 25, 400	36, 024 17, 737 43, 523 45, 744	31, 724 10, 743 83, 803 28, 663	26, 908 36, 443 49, 504 19, 711	511, 314 371, 917 390, 612 773, 334 385, 638
5-year average	34, 515	30, 44 8	43, 552	49, 547	50, 643	58, 916	35, 477	41, 505	34, 297	34, 392	38, 327	34, 944	486, 563
1920	24, 767	14, 523	12, 626	14, 625	15, 911	13, 065	18, 019	18, 496	18, 568	12, 772	10,044	9, 369	234, 246 182, 785 173, 433

¹ These figures include fresh, canned pickled and other cured beef, tallow, and oleo oil.

⁵ Austria only.

Table 401.—Berf: 1 Yearly exports, United States, 1910-1915 and 1918-1922.2 [000 omitted.]

		Year ending June 30.							Calendar years.					
Exported to—	191 }3	1911	1912	1913	1914	1915	1918	1919	1920	1921	1922			
Belgium. France. Germany Italy. Netherlands Sweden. United Kingdom. Canada. Newfoundland and Labrador. Other countries.	3, 271 409 33, 913 858 48, 013 2, 303 111, 699 1, 677 7, 739 43, 555	831 68, 694 2, 293 63, 008 2, 107 7, 476	971 67, 884 3, 353 33, 323 2, 461 7, 007	153 20, 722 409 47, 073 2, 448 17, 183 1, 517 5, 225	68 17, 951 438 47, 751 2, 014 11, 551 1, 987	106, 455 1, 393 11, 872 35, 234 6, 690 141, 554 2, 503	87, 168 1, 052 55, 553 2, 240 558, 344 13, 240	6, 127 2, 127 39, 814 6, 829 9, 025 113, 383	1, 343 31, 337 1, 029 38, 093 3, 828 29, 299 6, 753	3, 806 21, 386 2, 110 8, 087	507 15,586 693 47,499 2,586 17,981 1,979 8,449			
Total	253, 497	232, 316	190, 846	132, 909	130, 142	354, 041	769, 111	316, 684	213, 555	168, 987	142,058			

Table 402.—Cuttle: Percentage crippled in shipments by cooperative associations, 1921.

BY MARKETS.											
		Straig	ht shipn	ients ¹			Mixe	d shipm	ents 2		
Market.	Number of ammals upon which figures are based.	Average weight of animals.	Per- centage cup- pled of total number shipped	Per- centage crip- pled of total weight shipped	Average weight of crippled animals.	Num- ber of ant- mals upon which figures are based.	Avorage weight of animals.	Per- centage crip- pled of total number shipped	Per- centage crip- pled of total weight shipped.	Average weight of crippled animals.	
Buffalo. Chicago. East Sl. Louis Kansas City. Milwaukee. Omaha Pitisburgh Sioux City. St. Joseph. St. Paul	652 7,462 912 1,229 673 480 1,601 2,333 259 238	Pounds. 1,050 888 735 679 985 846 1,010 814 814 655	0. 15 . 12 . 22 13 . 17	0. 18 . 67 . 23	Pounds. 1, 220 543 760 540 665	1, 840 14, 973 573 3, 791 2, 127 909 729 1, 020 1, 728 6, 047	Pounds. 956 862 815 770 909 823 873 792 803 872	0. 27 .18 .35 .08 .09 .11 .27 .10 .06	0 16 .39 .07 .07 .13 .16 .06 .03 .05	Pounds. 546 905 703 790 980 500 480 400 708	
			В	DIST.	ANCE.						
Less than 100 miles 100-150 miles 150-200 miles 200-250 miles 250-300 miles 350-350 miles 350-400 miles 400 450 miles 450-500 miles 500-550 miles 550-600 miles	2,330 5,130 3,437 2,427 395 2,004 1,805 1,119 699 101 220	799 934 829 953 1, 055 929 854 897 879 723 923	0.09 -10 -09 -17 -22 -15	0. 06 .08 .07 .10 .13 .08	540 796 691 578 502 450	7, 888 8, 086 8, 030 3, 720 187 851 4, 052 1, 460 501 46 330	874 847 826 873 550 860 880 873 896 718 888	0.06 .17 .10 .27 .11 .17 .14 .20	0.05 .17 .08 .18 .13 .05 .22	667 815 683 605 	
			1	Y MON	THS.	,	*	·	-	,	
January February March April May June July August September October November December	1,981 2,421 2,052 3,201 914 818 941 1,082 1,302	838 870 873 945 951 936 938 835 796 811 855 908	0. 19 . 05 . 20 . 16 . 14 . 03 . 11 . 12	0. 17 . 06 . 14 . 14 . 02 . 05 . 06 . 10 . 08	738 950 808 957 600 460 450 530 840	4,097 3,541 4,359 3,280 3,284 3,103 1,321 2,032 1,863 2,288 3,358 2,625	844 825 838 812 862 879 857 882 838 868 878 900	0. 12 . 20 . 16 . 21 . 12 . 26 . 20 . 05	0.10 .18 .13 .18 .08 .27 .10 .04	690 733 663 713 595 925 433 640 690 550	

Includes canned, fresh, pickled, and other cured beer, and oleo oil.
 Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
 For 1910 oleo oil includes neutral lard.

Table 403.—Cattle: Percentage of shrinkage 1 in shipments by cooperative associations, 1921.

BY DISTANCE.

DI DISTANCE.				
	Straight s	nipments.2	Mixed sh	upments.3
Distance.	Number of animals upon which figures are based.	Shrinkage percent- age of weight shipped.	Number of animals upon which figures are based.	Shrinkage percent- age of weight shipped.
Less than 100 miles.	1,661	2 56	6, 261	2.34
100 to 150 miles.	3,518	2.26	4, 117	2.99
150 to 200 miles.	3,158	3 46	7, 151	3.30
200 to 250 miles	1,623	3 16	2,295	4.06
	350	2 91	179	3.03
	1,888	4.09	917	4.86
350 to 400 miles.	1,522	5 03	2,627	5.28
400 to 450 miles.	1,070	3 94	1,419	4.09
450 to 500 miles.	376	4.20	345	4.27
500 to 550 miles	72	5. 04	8	6.26
	220	4. 60	330	4.80
BY MONTHS.		£4 .		
January	1,401	4 20	2,795	4.00
February		3 34	2,591	4.13
March		3,66	3,210	3.39
April	1,728	3.54	2,400	3. 14
May		2.78	2,413	2 69
June		2.62	2,281	2. 97
July	828	2.66	1,056	2.78
	616	2.72	1,429	2.74
	680	3.47	1,283	3.18
October November December	1,000 736	3.81 4.30 2.84	1,636 2,505 2,036	3.24 3.68 4.07

¹ Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.

² Straight shipments contain but ore species of livestock.

³ Mixed shipments contain more than one species of livestock.

Table 404.—Calves: Percentage crippled and percentage dead in mired shipments by cooperative associations, 1921.

BY MARKETS.

			DX WAL	V 12.13.111.				
	Number			Cuppled			Dead	
Market.	of animals upon which figures are based.	Average weight of animals.	Percent- age of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percent- •age of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
Buffalo	7, 906 7, 803 868	Pounds. 167 153 259	0. 29 . 49 . 11	0. 28 . 34 . 03	Pounds. 162 106 120	0.32 .36 .23	0.32	Pounds. 167
Kansas City Milwaukee Pittsburgh	2,627 20,928 3,970	201 110 160	.19 .13 .13	.18	190 130	.19 .23 .18	.13	117
Sioux City St. Paul	130 10,555	219 136	.77 .03	. 35 . 02	100 93	.70 .13	.35	100 120
the large region and the control of the large and the control of the large and the control of the large and the la	A PROPERTY OF THE PARTY OF THE	arthur naganasanasta, eticar como es	BY DIS	PANCE.				History West record to the Authority and Aut
Less than 100 miles	20, 629 15, 646 9, 776 2, 980	124 137 145 203	0.07 .25 .09 .20			0. 16 . 30 . 14 . 13		
250 to 300 miles	102 2, 194 6, 313 2, 115	196 162 165 177	.23 .35 .19	0.18 .31 .19	132 146 178	. 23 . 41 . 33	0. 27	144
450 to 500 miles 500 to 550 miles 550 to 600 miles	51 1 42	171 166	.78 2.38	.92 1.12	230	1.94 2.38	1.42	100
enggalaginismiganismiganismigan van van gehombreide in destjeste van vi			BY MO	NTHS.				
January February March	4, 968 5, 093 8, 122	141 140 125	0. 28 . 11 . 11	0.23 .12	116 126	0. 36 . 16 . 25		
April May June	6, 091 6, 704 5, 514	126 132 150	.14 .15 .15		118	.36 .27 .27		
July August September	3, 095 3, 547 3, 231	152 175 178	. 19 . 23 . 34	.15 .21 .28	117 161 145	.22 .14 .31	0.13	160
October November December	4, 115 4, 904 3, 967	163 150 138	.15 .16 .18	.19	208	.12 .16 .15		

¹ Mixed shipments contain more than one species of livestock.

Table 405.—Calves: Percentage of shrinkage 1 in mixed shipments 2 by cooperative associations, 1921.

BY DISTANCE

Distance.	Number of animals upon which figures are based.	Shrinkage percentage of weight shipped.
Less than 100 miles	16, 869 9, 781 8, 114 1, 767	3. 49 4. 99 4. 85 6. 48
250 to 300 miles	102 2, 194 5, 641 2, 063	4 83 5.96 5.96 7.40
450 to 500 miles	495 42	6. 20 7. 75
BY MONTES.		
January February March	4, 172	5. 26 5. 22 5. 55
April	5, 517 5, 632 4, 386	5. 64 5. 20 5. 67
July	2, 541 2, 691 2, 332	5 00 5 08 4.93
October November December	2, 794 3, 919 3, 053	5. 30 4 62 4. 87

¹ Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.

² Mixed shipments contain more than one species of livestock.

MILK.

Table 406 .- Milk: Monthly wholesale price, cents per quart, in cases of 12 quarts, 1920-1922.

[Standard or grade B milk.]

		ĮΩ	Cana	tt Or gr	and D	111111111111111111111111111111111111111						
City and year.	Jan.	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.
Boston: 1920. 1921. 1922.	15 15. 5	15 15 10, 5	15 13. 5 10. 5	15 13, 5 10, 5	14 13. 5 10. 5	14 13.5 10	15 13. 5 11	15 14 11	16.5 14 11	16.5 14 12	16.5 14 12	16. 5 14 12
New York: 1920 1921 1922 Philadelphic	17. 5 17 14. 5	16 16 14. 5	16 15 13. 5	15	15 13	15 12.5	14 14	17 15 14.5	18 14.5 14.5	18 14.5 14.5	18 14.5 14.5	17 14. 5 15. 5
Philadelphia 1920 1921 1922 Pittsburgh	13 12 10	13 12 10	13 12, 5 10	13 10	13 10 10	13 10 10	13 10 10	14 10 10	14 10 10. 5	15 10 11	14 10 11.5	12 10 11.5
1920	15. 5 14. 5 12. 5	15 14.5 11.5	15 13. 5 11. 5	14. 5 13. 5 11. 5	14. 5 13. 5 11. 5	14. 5 13 5 11. 5	14. 5 13. 5 11. 5	15. 5 13 5 12	15. 5 13. 5	15. 5 13. 5 12. 5	15. 5 13. 5 13. 5	15. 5 12. 5 13. 5
1920 1921	14.5 14	14 13	14 13		14 12	14 12	14 12	14 12	14 12	14 12	14 12 11	14 12 11

Table 406.—Milk: Monthly wholesale price, cents per quart, in cases of 12 quarts, 1920—1922—Continued.

[Standard or grade B milk.]

Analysis and the second and the seco												
City and year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Cleveland: 1920. 1921. 1922. Indianapolis:	14. 5 13. 5 9	14.5 12.5 9	14. 5 12. 5 9	13. 5 12. 5 9	13. 5 12. 5 8 5	13.5 11.5 8.5	13, 5 11, 5 8, 5	14.5 11.5 8.5	14.5 11.5 8.5	11.5 11.5 10.5	13 5 11 5 10 5	13.5 11 11.5
1920 1921 1922 Chicago:	12 12 10	$^{12}_{12}_{9}$	12 11 9	12 11 9	$^{12}_{11}_{9}$	12 10 8	12 10 8	12 10 8	12 10 8	12 10 8	12 10 8	12 9 8.5
1920 1921 1922 Detroit:	14.5 13.5 11	14.5 13.5 11	13.5 13.5 11	13.5 13 9.5	13 5 13 11	13.5 13.5 11	14.5 13.5 11	15.5 13 11	15.5 11.5 11	15.5 11.5 10	14 11.5 11	13.5 11.5 11
1920 1921 1922 Milwaukee:	15 12 12	15 12 12	$\frac{15}{12}$	$15 \\ 12 \\ 11$	14 5 12 10, 5	11.5 12 10.5	$15 \\ 12 \\ 10, 5$	15 12 11	15 12 11	15 12 11.5	15 12 10	13 12 11
1920 1921 1922 Minnerpolis:	12 7.5	12 8 5 7. 5	11 8.5 7.5	11 8.5 7.5	11 7 5 7.5	11 7 5 7.5	12 7, 5 7, 5	12 8 7.5	12 7.5 7.5	12 7.5 7.5	10 7.5 8.5	10 7.5 8.5
1920. 1921. 1922. St. Paul:	11.5 11.5 8.5	11.5 11 8.5	11.5 10.5 8.5	$11.5 \\ 10.5 \\ 8.5$	11.5 9.5 8	11 5 8.5 8.5	11.5 8.5 8	12.5 9.5 8.5	12.5 9.5 9	12.5 9.5 9	12. 5 9. 5 9	12.5 9 10
1920 1021 1922 Sioux City:	12 11. 5 8. 5	12 11 5 8.5	12 10.5 8.5	11. 5 10. 5 8. 5	11.5 9.5 8.5	8.5 8.5	12 8, 5	12 5 9 5 8 5	12. 5 9. 5	12.5 9.5 9.5	12.5 9.5 9.5	12.5 9.5
1920 1921 1922 St. Louis:	14. 5 13. 5 9. 5	11 5 12.5 8.5	14.5 11.5 8.5	14.5 11 8.5	14.5 11 8.5	13.5 11 8.5	13.5 11	13.5 11 9	14.5 11	14.5 11	14.5 11	14.5
1920 1921 1922 Kansas City:	15 15 8	15 13.5 8	15 13 8	12 8	14 13 8	11 8	11 11 10	15 11	15 11 10	15 11 10	15 11 10	15
1920 1921 1922 Washington:	14 12.5 11.5	14 13 11	14 11.5 10	14.5 11.5 9	14 11.5 8.5	13.5 12 9	14 12 9	11.5 12.5 9.5	13. 5 12 8. 5	14.5 12 9.5	13.5 11.5 9.5	14.5 11 10
1020	15. 5 14. 5 11	15 13 12	15.5 11 10	15 14 10	13.5 11 10	13. 5 11 10	13.5 10 10	14	14 11 10	15 12 11	15. 5 12 11	15.5 12 11
1920 1921 1922 Charleston:	16 16 13	16 13	16 14.5 13	16 11 12	16 13 12	15 13 12	16 13 13	16 13 12	16 13 12	16 13 12	16 13 13	16 13 13
1920 1921 1922 Atlanta:	20 15	20 15	20	15	20 18 15	16 15	15.5	15 15	15 15	15	15 14	14
1920 1921 1922 Jacksonville:	18	18 15	18 11	17.5 11		9.5	14 10	·····	25 11 10	14 10	14	
1920 1921 1922 Louisville:	17	17 15	15 15	18 11	18 12.5	16	22 13	22 16 12, 5	22 14 14.5	18 16 14.5	18 16 15	18 16 14, 5
1920 1921 1922 Nashville:	14 13 9	14 7	14 	14 	14 7	14	14 9 7	14 10 8	14 9 9	14 9 0.5	14 9 10	9 11
1920	16 15 10	16 14 9	16 14 9	16 13 9	16 13 9	16 12 9	16 12 9	16 12 9	16 12 9	16 12 9	16 12 9	15 12 10
1920 1921 1922 New Orleans:	15 18 13	18 15 12	15	15 15 11	15.5 14 14	18 14	15 14	15 13 10	15 13. 5	13.5	13. 5 13	18 13. 5
1920	17	17	17	17	15	15	15	15	17	17	17	16 12

Table 406.—Milk: Monthly wholesale price, cents per quart, in cases of 12 quarts, 1920–1922.—Continued.

City and year.	Jan.	Feb.	Mar	Apr.	May	June.	July.	Aug	Sept.	Oct	Nov.	Dec.
Galveston: 1920 1921 1922		17. 5 15		16 14 12.5	16 	13. 5 12	16 12. 5 11	12 11	12 5 12.5	15	12. 5 12	16 15 12, 5
Butte 1920 1921 1922	12.5 10	12.5 12.5 10	12.5 12.5 10	10	10 10	12. 5 9. 5	12. 5 9. 5	12. 5 10 9. 5	9 9	15 10 10	10 10	10 10
Denver: 1920, 1921 1922. Salt Lake City.	11.5 8	11 5 13 8	12 7.5	12 10 8	9 8	11 9 7. 5	12 8.5 8	11 9 8	11 8 8	11 8 8	11 8.5 8	11 8.5 10
1920	11 12 8	11 11 8	11 11 8	11 11 8	11 11 8	11 11 9.5	11 11 8	11 11 8	11 11	11 11 8	11 11 8	11 11 8
1920	11.5 9 9.5	11 8, 5 9, 5	10 9 9.5	9 9 8	8.5 8.5	10 8.5	11 8. 5	11 8 5 9. 5	9.5	10.5 8.5 9	8.5 10.5	8 10.5
1920	13.5 12.5 9	13.5 12 8.5	13. 5 12 8. 5	12	12.5 9 8	12 9 8	12 9 8	12 8 9	13 9 9	13.5 9 9	13 9 9	13 9 9
1920 1921 1922 San Francisco:	13, 5	15 15 13	15 15 13	15 15 13	13	15 15 13	17 14 13	17 13 13	13 13	17 13 13	17 13 14	17 13 14
1920 1921 1922	13	14 13 10. 5	13. 5 13 10. 5	13. 5 12 11	14 12	14 12 10. 5	13. 5 11 10	14 11 10	14 11 10	14.5 11 10	14.5 11 10	15 11 11

Table 407.—Milk: Monthly retail price, in cents per quart, delivered to family trade in cities, 1920–1922

[Standard or grade B milk]

City and year.	Jan.	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.
Boston: 1920. 1921. 1922.	17 17 13. 5	17 16. 5 13. 5	17 16 13. 5	17 15. 5 13. 5	16 15 12.5	16 15 12. 5	17 15 13. 5	17. 5 16 13. 5	18 15 5 13. 5	18 15 14.5	18 15 14.5	18 15 14.5
New York: 1920. 1921. 1922. Philadelphia:	18 17 15	16.5 16 15	16.5 15 15	15	15 13	15 14 13	16 14 14	17 15 15	18 15 15	18 15 15	18 15 15	17 15 16
1920 1921 1922 Pittsburgh:	14 13 11	14 13 11	14 13 11	14 13 11	14 11 11	14 11 11	14 11 11	15 11 11	15 11 11	15 11 11	15 11 12	13 11 12
1920. 1921. 1922. Cincinnati:	16 15 13	16 15 12	16 14 12	15 14 12	15 14 12	15 14 12	15 14 12	16 14 12	16 14	16 14	16 14 14	16 13 14
1920 1921 1922 Cleveland:	15 15 13	15 14 12	15 14 12	15 14 12	15 13 12	15 13 12	15 13 12	15 13 12	15 13 12	16 13 12	15 13 12	15 13 12
1920. 1921. 1922.	16 15 11	16 14 11	16 14 11	15 14 10	15 14 10.5	15 13 10. 5	15 13 10. 5	16 13 11	16 13 11	16 13 13	15 13 13	15 13 14
Indianapolis: 1920	14 14 11.5	14 14 11	14 13 11	14 13 10.5	14 13 10.5	14 12 10	14 12 10	14 12 10	14 12 10	14 12	14 11. 5 10	14 11 10
Chicago. 1920. 1921. 1922.	15 14 12	15 14 12	14 14 12	14 14 12	14 14 12	14 14 12	15 14 12	16 14 12	16 12 12	16 12 12	15 12 12	14 12 12

Table 407.— Milk: Monthly retail price, in cents per quart, delivered to family trade in cities, 1920-1932—Continued.

[Standard or grade B milk.]

City and year.	Jun.	Feb.	Mar.	Apr.	May.	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Detroit:						-						
1920. 1921. 1922.	16 13 13	16 13 13	16 13 12	16 13 11. 5	15 5 13 11.5	15. 5 13 11. 5	16 13 12	16 13 13	16 13 13	16 13 13	16 13 13	14 13 14
Milwankee. 1920. 1931. 1922.	13 9	13 10 9	12 10 9	12 10 9	12 9 9	12 9 9	13 9 9	13 10 9	13 9 9	5 13	11 9 10	11 9 10
Minneapolis: 1920. 1921. 1922.	13 13 10	13 12.5 10	13 12 10	13 12 10	13 11 10	13 10 10	13 10 10	14 11 10	11 11 11	11 11 11	14 11 11	11 10 5 11.5
St. Paul: 1920. 1921. 1922.	13 13 10	13 13 10	13 12 10	13 12 10	13 11 10	13 10 10	13 10	14 11 10	14 11	14	14 11 11	11 10.5
Sioux City: 1920. 1921. 1922.	16 15 11	16 11 10	16 13 10	16 8 10	16 12 J 10	15 12.5 10	15 12.5	15 12.5 11	16 12. 5	16 12. 5	16 12 5	16
St. Louis: 1920 1921 1922.	16 16 10	16 15 10	16 11 10	1.5 1.1 10	15 14 10	15 13 10	15 13 12	16 13 12	16 13 12	16 13 12	16.5 13 12	16 10 13
Kancas City: 1920 1921 1922	15 5 11.5 11	15.5 14 13	16 13. 5 12	16 13. 5 11	15.5 13.5 11	15.5 13 11.5	15 11 11.5	15.5 11 12	15 11 10	15.5 14 12	15.5 11 12	15 5 14 12 5
Washington: 1920. 1921. 1922.	18 16, 5 13, 5	17.5 15 13	17. 5 16 13	17. 5 16 13. 5	16 13 13	16 13.5 13	16 13. 5 13	16 13.5 13	16.5 14 13	17.5 15 14	17. 5 15 11	17 5 15 11
Richmond: 1920. 1921. 1922.	16 16 11	16 16 14	16 14.5	16 13 13	16 11 13	17 11 13	16 11 13	16 14 13	16 14 13	16 11 13	16 11 11	16 14 14
Charleston: 1920	25 25 18	25 25 18	25	18	22 18	25 18	25 18	18 18	18 18	25 18	13 17	$\frac{25}{17}$
Atlanta: 1920 1921 1922	22.5	22. 5 20	15. 5	16. 5	25	25 20 15	25 17. 5 15	25 15	25 17. 5 15	25 17. 5 17. 5	17. 5	17.5
Jacksonville: 1920 1921 1922	20 17, 5	20 18	20 18 17	20 14	20 11	20 20 11	25 16, 5	25 19 15. 5	25 20 17	21 20 16. 5	22.5 13.5 17	22. 5 18 5 17
Louisville: 1920	16 15 (1	16 20	16	16	16	16	16 11	16 12 10	16 11	16 11 11. 5	16 11 12	11 13
1922. Nashville: 1920. 1921. 1922.	17 16 11	9 17 16 11	17 16 11	17 14 11	17 14 11	17 14 11	9 17 14 11	17 11 11	11 17 15 11	19 11 11	17 11 11	17 11
Birmingham: 1920 1921 1922	21. 5 22. 5 20	20 22. 5 18	20	20 20 17 5	23 15	20 18 16	20 20	22.5 17.5 17.5	22 5 17. 5	20 17 5	20 17. 5 16	22 5 17 5
New Orleans: 1920. 1921. 1922.	19 17 14	19 17 14	19 16 11	19 16 14	17 16 14	17 16 14	17 16 14	17 16 14	19 16	19 16 14	19 14 14	18 14 14
Dallas: 1920 1921 1922	15	23 19 15	23 17 12	21	21 15 12	21	21 15 15	21 13	21 15 15	21	21	21 15 15
Galveston: 1920	20 20 15 5	21 20	21 18	20 18 15	20 16. 5	16 5	20 12 5 15	20 15. 5	20 17	20 12 16.5	20 15 5	20 18 16.5
Butte: 1920 1921	15 5 15 15	15 15	15 15 15		15 15 13	15 15	15 15 12. 5	15 15 12 5	15 12. 5	15 13	13 5 15 13	15. 15 13

Table 407.—Milk: Monthly retail price, in cents per quart, delivered to family trade in cities, 1920-1922—Continued.

[Standard or grade B milk.]

City and year.	Jan.	Feb	Mar.	Apr	May.	June	July.	Aug	Sept.	Oct.	Nov.	Dec.
Denver:												
1920	12 5	12.5	13	13	13	13	13	13	13	13	13	13
1921	13	13	13	12	11	11	11	11	10	10	10	10 5
1922	10	10	9.5	10	10	9 5	10	10	9 5	10		
Salt Lake City:	10 "	10.5	10 2	10.		40.4						
1920 1921	$\frac{12}{12} \frac{5}{5}$	$12\ 5\ 12\ 5$	$\frac{12}{12} \frac{5}{5}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	12 5	12 5	13	12 5	12 5	12 3	12 5	12 5
1922	10 10	8 5	9	12 5	12 5 8 5	12 5 8 5	12 5 8 5	12 5 8 5	12 5	12 5	12 5	12 5
Seattle:	10	0.0	Э	9	0.0	0.0	0.0	83		9	8 5	9
1920	14	14 5	13 5	12		13	14	14	14	14		13
1921	13	îi	13	13	12		11	12	14	12	12	11
1922	13	13	13	12	$\tilde{1}\tilde{2}$	12	12	13	13	12 5	13	iŝ
Portland, Oleg										0		
1920	15	15	15	13	13 5	13	13	14	14	14	14 5	14 5
1921	14	14	14		13	12	12	12 5	12 5	12 5	12	12
1922	12	11	11		11	11	11	12	12	12	12	12
Los Angeles:	10		10				1	1				
1920	16 18	16 16	16 16	16 16	16	16 16	18	18	18	18	18	18
1921.,		14	14	14	14	14	15 14	14 14	11	14 14	14 15	14 15
1922	74.0	1.4	1.1	14	14	14	14	14	11	14	19	1.5
San Francisco:	16	16	15 5	15	16	16	155	17	17	17	17	17
1920	15 5	15 5	15 5	15	15	14 5	13 5	14	11	$\frac{1}{13}$. 5	13 5	13.5
1922	13 5	$\frac{15}{12}\frac{5}{5}$	$\frac{13}{12}$ 5	12 5	10	12 5	12 5	12 5	12 5	12 5	$\frac{13}{12}\frac{5}{5}$	13 5
1044	10 0	ن سد	12 0	12 0		12 0	12 5	ر شد	12 0	120	12 3	10

BUTTER.

Table 408.—Butter: Farm price, per pound, 1st of month, 1909-1922.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1909	28.7	Cents. 25. 1 27. 9 24. 1 29 0 27. 6	Cents. 24. 5 26. 3 22. 7 27. 2 27. 5	Cents. 21. 2 25. 8 22 6 26. 1 27. 6	Cents. 24. 0 25. 5 21 4 26. 0 27. 0	Cents. 22.5 24.1 20 3 24.8 25.5	Cents. 21. 9 23. 3 20. 4 23 1 24. 7	Cents. 22. 4 23. 8 21. 7 23. 7 24. 9	Cents. 23.3 25.2 23.1 24.2 25.9	Cents. 25 0 26. 2 23. 8 25 6 27 5	Cents. 26. 2 27. 1 25. 2 26. 9 28. 2	Cents. 27. 4 27. 8 27. 1 28. 8 29. 2
1914 1915 1916 1917 1 9 18	28.7 28.3	27. 4 27. 9 27. 6 33. 5 43. 7	26. 0 26. 8 27. 1 34. 1 43. 4	24. 9 25. 8 27. 6 33. 5 40. 7	23. 8 25. 7 27 9 36 1 39. 9	22. 8 24. 8 26. 5 35. 0 38. 6	22. 9 24. 2 25 7 33. 5 38. 2	23. 7 24. 2 26. 1 34. 0 39. 7	25.3 21.5 27.4 36.1 41.4	26. 0 25. 3 29 0 38. 9 47. 2	26. 3 26. 4 31. 1 40. 9 49. 7	28. 4 27. 6 34. 4 41. 9 52. 7
1919. 1920. 1921. 1922.		49. 6 57. 8 45. 0 34. 1	43. 8 55. 9 42. 1 34. 7	47. 6 56. 1 40. 4 34. 5	50. 3 57. 6 38. 6 34. 7	49.1 53.5 29.4 33.5	47. 2 51. 6 29 0 32. 7	48. 2 52. 0 34. 1 33. 2	49. 7 52. 3 36. 6 33. 5	51. 5 54. 1 38. 2 36. 2	56. 0 54. 3 40. 9 38. 5	60. 0 54. 7 41. 1 42. 0
Av. 1913-1922	39.7	37.4	36.1	35.9	36. 2	33.9	33.0	34.0	35.3	37. 4	39.2	41.2

Table 409.—Butter: Monthly average wholesale price, per pound, of 92-score butter at five markets, 1918-1922.

Year.	Jan	Геb	Mai	Apr	Мау	June.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Aver- age.
New York: 1918 1919 1920 1921 1922 Chreago:	Cents. 52 62 65 52 7	Cents 50 52 66 17 37	Cente. 41 62 67 48 38	Cents. 12 64 71 46 38	Cents 42 58 61 32 38	Cents. 41 52 57 33 37	Cents 15 53 57 40 36	Cents. 16 55 55 43 35	Cents 56 59 59 43 41	Cents. 59 68 69 47 46	Cents 63 71 63 45 51	Cents. 69 72 55 44 54	Cents. 51 61 61 43 41
1918. 1919. 1920. 1921. 1922. Philadelphia	60 63 48 31	49 63 47 37	41 60 66 17 38	12 62 61 44 37	12 57 57 29 34	42 51 55 32 36	43 51 55 39 34	45 53 54 40 31	55 57 57 42 39	56 64 57 45 44	62 69 60 44 50	67 68 51 43 53	50 58 58 42 39
1918 1919 1920 1921 1922 Boston	62 65 50 97	52 67 48 37	62 68 49 38	65 71 47 38	46 59 62 33 37	14 53 58 33 37	45 54 58 40 37	46 56 56 43 36	56 59 60 43 42	59 68 60 17 47	63 70 63 46 52	69 73 55 45 55	54 61 62 44 41
1918 1919 1920 1921 1922 San Francisco:	63	51 63 48 37	62 66 48 39	65 vir 46 38	46 59 61 32 37	44 53 58 34 37	45 53 58 11 37	16 56 57 43 36	55 58 59 43 40	59 04 59 46 46	62 69 60 45 50	67 71 51 44 54	53 61 61 41 41
1918	56 62 42 36	10 62 46 40	56 59 38 33	56 56 34 32	56 53 31 35	51 51 34 38	54 57 39 39	55 59 42 39	60 64 41 16	59 63 58 46 49	58 64 53 46 45	62 65 48 41 47	60 57 57 40 40

Table 410—Butter: Monthly average wholesale price per pound of 92-score creamery at New York, 1910 to 1922.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly aver- age.
1910	Cents. 33 26 39 35 33	Cents 30 26 32 36 29	Cents. 33 24 31 37 28	Cents 31 21 33 35 25	Cents 28 22 30 29 26	Cents. 28 23 27 28 27	Cents. 28 25 27 27 28	Cents. 29 26 27 28 30	Cents. 30 27 30 32 31	Cents 30 30 31 31 31 32	Cents. 31 34 34 34 34 35	Cents. 30 37 37 36 34	Cents. 30 27 32 32 32 30
Average	33	31	31	29	27	27	27	28	30	31	31	35	30
1915 1916 1917 1918 1919	34 33 40 52 62	32 34 44 50 52	30 37 42 44 62	31 36 44 42 64	29 31 40 42 58	28 30 39 44 52	27 29 39 45 53	26 31 41 46 55	27 31 44 56 59	29 35 45 58 68	31 39 46 63 71	35 40 50 69 72	30 34 43 51 61
Average	41	42	41	43	40	39	39	40	44	47	50	53	44
1920 1921 1922	65 52 37	66 47 37	67 48 38	71 46 38	61 32 38	57 33 37	57 40 36	55 43 35	59 43 41	60 47 46	63 45 51	55 44 54	61 43 41

Table 411 —Butter: International trade, calendar years 1909–1921.

[Butter includes all butter made from milk, melted and renovated butter, but does not include margarine coco butter, or ghee — See "General note," Table 161.]

Country.	Average,	1909–1913	19	19	19	20	19	21
Country.	Imports.	Exports.	Imports.	Exports	Imports.	Exports	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES Argentina. Australia. Canada. Denimalk. Finland. France. Italy. Netherlands. New Zealand. Notway. Russia. Swoden. United States. PRINCIPAL IMPORTING COUNTRIES.	1,000 pounds 113 46 3,388 6,241 2,370 13,713 972 4,977 976 2,202 330 1,647	1,000 pounds 6, 934 77, 859 3, 973 195, 530 26, 337 40, 709 7, 870 75, 133 38, 761 3, 137 150, 294 45, 870 4, 123	1,000 pounds 10 37 1,464 441 11 12,789 1,880 615 4 8,201 13,817 9,519	1,000 pounds 44, SSI 39, 006 16, 509 80, 622 879 995 51 30, 242 38, 732 2	1,000 pounds 34 1,105 6 18,584 3,104 131 (1) 8,098 16,917 37,154	1,000 pounds. 40,686 92,421 13,361 164,959 2,508 4,812 96 45,576 34,945 5 5 17,488	1,000 pounds. 4,018 860 14 40,235 1,004 4,401 7,558 14,175 18,558	1,000 pounds. 52, 187 9, 133 202, 942 11, 253 3, 033 145 44, 583 100, 630 29 342 8, 015
Austria-Hungary Belgium Brazil. British South Africa. Dutch East Indies. Egypt. Germany. Switzerland. Umted Kingdom. Other countries.	6, 2S1 19, 022 4, 551 4, 025 4, 152 2, 350 111, 441 11, 106 455, 459 23, 563 674, 014	4 267 3, 125 8 4 38 8 166 498 44 1, 179 3, 380 689, 293	11, 176 42 387 5, 976 785 13, 250 174, 568 10, 596 265, 568	11 563 567 246 (1) 262 1,811 290,011	\$ 761 18, 461 167 658 6, 793 570 17, 227 18, 140 187, 799 19, 356 355, 390	127 10 629 23 204 429 3 363 1,748 420,446	2 452 22, 665 3 73 6, 824 628 15, 994 372, 895 8, 883 519, 240	1,338 51 2,983 149 1,105 1,007 441,880

¹ Less than 500.

Table 412.—Butter: Monthly receipts at five markets, 1918 to 1922.

[000 omitted.]

					1000 0	minorci	-,						
Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.	Total.
New York: 1918. 1919. 1920. 1921. 1922.	Lbs. 13,725 16,439 11,794 12,101 16,191	16,119 11,201 11,027	16,232 12,972 12,969	17, 125 7, 845 14, 265	22, 904 13, 383 21, 339	27,900 28,419 20,205 27,233	<i>Lbs</i> . 25, 875 23, 372 21, 534 21, 635 30, 715	22, 893 18, 203 23, 664	19,650 14,914 21,187	16, 219 12, 079 17, 072	15, 285 10, 436 15, 564	12, 041 10, 042 14, 892	226,698 164,608 212,948
Average	14,050	13,781	15,436	13,960	19,980	27,668	24,626	21,619	17,912	16, 126	14,085	13, 100	212,346
Chicago: 1918. 1919. 1920. 1921. 1922.	18,142 12,324 10,065 10,054 13,628	10, 177 9, 447 9, 908	11, 458 11, 398 12, 195	12, 891 10, 344 14, 513	23, 168 17, 118 21, 785	33,373 25,344 28,571	24, 627 27, 633 21, 551	18, 556 20, 200 21, 290	13, 156 15, 455 14, 864	10, 758 11, 417 14, 664	7,722 9,528 11,185	7,569 8,797 13,011	185,779 176,746 193,591
Average	12,843	12,750	14,657	14,633	21,284	31,020	27, 106	21, 733	16, 055	1 4, 4 30	11,242	11,623	209,375
Philadelphia: 1918. 1919. 1920. 1921.	3,824 3,264 3,250 5,487	3,520	3,398 3,860	4, 101 2, 964 4, 084	5,064 3,980 6,139	7,803	5, 026 5, 850 6, 486	4, 356 4, 773 5, 713	4, 141 4, 698 5, 107	3,847 3,771 4,780	4,181 3,010 4,184	2,993 3,165 4,543	51, 191 48, 630 58, 766
Average	² 3, 956	2 3, 557	3,701	3,616	5,056	6,886	5, 791	4, 971	4,387	4,034	3,629	3, 560	

² Austria only. ⁸ Two-year average.

 ${\bf T_{ABLE}~412.-} \textit{Butter:~Monthly receipts at five markets, 1918~to~1922-- ('ontinued.}$

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec	Total
Boston: 1918. 1919. 1920. 1921. 1922.	Lbs 2, 345 4, 014 3, 246 3, 722 1, 787	3,821	3,110 5,368 1,117	4,378 3,709 3,881	9, 554 6, 323 8, 045	Lbs. 11, 871 14, 107 12, 060 12, 536 16, 959	12, 237 13, 699 14, 106 9, 433	7,609 8,749 9,357	5,211 6,762 6,994	1, 372 6, 296	2,210 2,378 3,282	2,035 2,471 3,093	73, 223 72, 993 74, 538
Average	3,617	3, 561	4, 354	4,091	8,198	13, 507	12,267	8,389	6,077	1,975	3,486	3,022	75, 537
San Francisco: 1918. 1919. 1920. 1921. 1922.	2, 278 1, 266 1, 488 1, 652 1, 742	1,665 1,431	2,014 2,178 1,982	$\begin{bmatrix} 2,792 \\ 3,140 \\ 2,345 \end{bmatrix}$	2,979 2,707 2,255	2, 134 2, 197 2, 396	2,202 1,744 2,359		1,722 2,061	1,337 1,739 2,538	1,333	1, 269 1, 572 1, 718	22,031 23,566 25,566
Average	1,68.	1,602	2, 178	2,805	2,701	2,370	2,049	2,022	1,618	1,812	1,615	1,510	23, 997
Total 5 markets: 1918. 1919. 1920. 1921. 1922	37, 867 20, 827 30, 779 41, 835		36, 592 35, 314 35, 154	41, 287 28, 002 39, 088	63,669 43,571 59,563	81, 993 86, 043 78, 419	68, 936 71, 167 61, 164	55, 246 53, 714 62, 734	43, 551 50, 216	35, 573 33, 378 45, 350	30, 731 26, 917 36, 421	25, 910 26, 050 27, 257	558, 922 486, 513 565, 410
Average	² 35, 077	°32, 958	40, 326	39,098	57,218	81, 452	71,810	58, 735	46,040	11,377	31,087	32, 815	N/SI

^{1 10} months' total, March to December, inclusive.

Table 413.—Butter: Monthly and yearly receipts, by States, 1922.

[000 omitted.] BOSTON.

State.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Aug	Sept.	Oct.	Nov.	Dec.	Total.
Illinois. Chicago. Indiana. Iowa Kansas.	<i>Lbs</i> 491 1,509 98 206	Ibs. 626 1,656 30 142	Lbs. 906 1,156 16 137	Lbs. 740 849 10 156	557	2, 327 795 858		1,048 116 313	867 151 471	Lhs. 1,346 291 88 248	508	793 101	14, 526 2, 554 3, 982
Kentucky Maine Maryland	4 20	27	is	····ii	22 7	20 15	65 5		٠١	25	45		132 197 5
Massachusetts Michigan	~ 79 106	15 144		108 44						32 145		77	870
Minnesota Missouri Montana	399 4	206 2		544 4		2, 134 196		87	1, 196 57	868 15			11, 213 884 23
Nebraska New Hampshire	262 50						444 38	215		127 57	11 29		2, 152
New York. New York City. North Dakota Ohio.	165 385 31 173	329	700	358 25	102 25	991 54	145 78	131 24	62 60	13 60 2 440	89 2	142 (1)	3, 494 302
Oklahoma Pennsylvania Philadelphia South Dakota	43 43 113	19			10		23 11	(1) 41	13 57 158	22 60	(1) 1 42	22 3	129 174
Tennessee. Vermont. Wisconsin	393 46						627 416			295 98			40 6, 339 2, 215

¹ Less than 500 pounds.

² 1-year average.

Table 413.—Butter: Monthly and yearly receipts, by States, 1922—Continued.

[000 omitted] SAN FRANCISCO.

State.	Jan.	Feb.	Mar.	Apr	Мау.	June	July	Aug	Sept.	Oct	Nov	Dec	Total.
California Colorado Idaho Illinois Iowa	Lbs. 1,545		Lbs. 2,040	Lbs 2,596	Lbs 2, 648	Lbs. 2,432 30 1	Lbs. 1, 991 30 23	Lbs 1,892 30 70 58	Lbs 1,712 101	<i>Lbs</i> . 1,651 30 71 36	Lbs. 1,685	Lbs 1,680	Lbs. 23, 352 120 402 118 51
Minnesota Missouri Montana Nebraska Nevada	45	29	60	15	24 17	22 58	(1) 32 67	30 4 75 32	22 48 19	22 15	23	8	74 4 155 46 388
North Dakota Oregon Utah Washington Wyoming	19 25 10	24 43 6	18 1	8	32 3 5	172 1 25 1	26 2 2 2 5	23 43 (1)	24 34 46 1	97 1!5 36 152 (¹)	24 73 8 1	41 26 34	145 585 136 332 8
					CHIC	AGO.							
Alabama Arkansas California Colorado Georgia	(1) 192 145	52	(1) (1) 69	(1) (1) 69	2 4 79	6 5 311	(1) 336 (1)	2 5 80	48	61	(1) 23	(¹) 44	14 14 192 1,317
Idaho Illinois Indiana Iowa Kansas	395 67 2,681 534	255 42 2,397 389	303 24 2,812 235	334 40 2, 862 237	1, 174 184 4, 407 1, 029	174 5, 356	806 104 3,556 841	798 125 3,494 614	519 63 3,269 123	617 102 2,789 95	3,282	34 584 65 3,830 602	$\begin{array}{c} 34\\7,465\\1,027\\40,735\\5,935\end{array}$
Kentucky. Maryland. Michigan. Minnesota. Mississippi.	108 2,502 2	2,558	114 3,098 45	108 2,696 24	1 184	5,036	236 5,713 14	3,285	71 26 2,563 33	28 ,1,991	39	61	291 3 1,609 37,483 299
Missouri Montana Nebraska New Mexico New York	627 4 1, 159	467 4 1,114	393 835 (1)	36	1,718	96	91	1,399 30 1,616 7 (1)	25	639 768	1	767 3 1,222	8, 959 209 16, 958 7 48
North Dakota Ohio Oklahoma Pennsylvania	159	23	130 70 2 5	140		162 328 (1)	565 35 511 3	502 55 337	279 58 1 1	260 112	142 3 1	70 50 133 (1)	3,049 874 1,7.3
South Dakota Tennessee Texas Utah	580 3 7	2	759 1 (1) 24	2 21	3 28 24	(1)	1,599	2	597 1	695 1 (¹)	(1)	(1) 48	9, 639 34 35 120
Wisconsin	4, 329 29 5		5,263 2		8, 241	11,815	9,168	7,907	6,072	5, 194 28		3,691 47 2	74, 773 47 29 60
				РН	ILAD:	ELPH	TA.						
Alabama California Delaware District of Columbia Georgia	231 30 4	25	22	38 28	(¹) 30 1 1	17	8	(1)	18	37	(1) 11	88 31 1	357 258 9 1
IllinoisIndianaIowa	1,057 277 169	854 272 159	530 232 139	386 252 167	1,079 608 118	661	725 561 174	703 328 115	797 345 66	411 354 30	1,011 217 57		

Table 413.—Butter: Monthly and yearly receipts, by States, 1922—Continued.

[000 omitted]

PHILA DELPHIA -- Continued.

State.	Jan.	Feb.	Mar	Apr.	Mav	June	July	Ang.	Sept.	Oct.	Nov.	Den	To'al
Maryland	Lbs. 18	Lbs.	Lbs.	Lbs.	Lbs.	Lbs. 43	Lbs 69	Lbs 2	Lb° . ⁽¹⁾	Lbs. (1)	Lbs 117	Lbs 35	
Massichusetts Michigan Minnesota Mississippi	103 2, 083		83 2, 432			2,579	2,634		106 1,654 31				
Missouri Nebrasha	58 134		51 86					53 157					511
New York	30 167		1 188	(¹) 154	91	(1) 501	261	(1) 234	135	(1) 24)	2 10.3		
North Carolina North Dakota Ohio	42 156		25 1%)			8,6			378	362		163	
Oklahoma	314	356 32	350	300	380	21 365	210	267	193	435	2 290	174	,
South Dakota Tennessee	(1) 71 57			31					230 95		50 89		31 6 1,751 1,145
West Virginia Wisconsin Wyoming	7 437								5 359 2	5 241	1., 251		93 4,710 2

NEW YORK CITY.

·								,					
Alabama	17	6	5	4	11	7	6	11	6	6	11	31	124 1
California Delaware Dist. of Columbia	112 2 22	(1)	3 (¹)	71 2	4 18	(1) 5 3	3	4	(¹) 11	2 	(¹) (¹)	178 (¹) (¹)	364 25 54
Georgia Illinois Indiana Iowa Kansas	2,830 496 2,795 19	214	326	226	764	1,049 5,940	656 5,403	2,195 511 4,438	2,177 317 3,586	423	537		95 33,538 5,991 43,489 429
Kontucky Maryland Massachusetts Michigan Minnesota	25 27 584 4,632	4 97 516		77 1 16 218 5,884		23	61 801	32 1 582	$\frac{27}{622}$	75 49 24 414 5,598	41 111 734	7 2 425	701 380 418 7,213 80,589
Mississippi. Missouri. Nebraska. New Jersey. New York.	90 1,736 10 661	1,877	2,035 12	1,531	9	529 2,758 6		2,473 5			$\begin{array}{c} 3\\350\\1,454\\2\\278\end{array}$	$^{367}_{1,760}$	54 3,673 24,074 80 9,598
North Carolina North Dakota Ohio Pennsylvania South Carolina	11 18 723 123 (¹)	540	18 526	4 6 448 131 (1)	23 4 1,361 347 2	504	$\begin{array}{c} 20\\ 33\\ 1,207\\ 246\\ 1\end{array}$			24 3 1,029 98 (¹)	817	763	195 246 10,631 2,349 9
South Dakota Tennessee Vermont Virginia West Virginia	45 90 10 22 (1)	54 5	28 3	13 34 1 14 (1)	29 151 1 58 3	(1)	36 135 1 62 2		2 127 1 90 1	46 57 83 1	54 2 54 1	14 70 3 32 3	353 1,185 27 652 16
Washington Wisconsin Canada	664 387				1,085	1,742 29	1,865	1,501	1,188	1,017 58	881 566	28 855 720	12,803 1,828

¹ Less than 500 nounds

Table 414.—Cold storage holdings of creamery butter in United States, 1916 to 1922.
[000 omitted.]

Year.	Jan.	Feb	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1916	46,134 50,726 43,910		16,952 18,808	6,805 14,629 11,909	3,607 9,536 9,659	9,953 12,698 29,435	49,982 49,140 90,158	102,537 88,902 88,305 123,546 101,455	103,179 99,334 131,388	109,154 87,883 121,816	100,115 80,874 100,474	79,928 65,111 73,654
Average	48,697	32,673	19,510	9,849	6,288	14,395	59,134	100,967	112,039	106,552	93,700	73,147
1921 1922	58,682 48,412	41,486 35,047	27,103 22,582	14,732 9,113	7,712 3,830	21,682 13,202	61,991 67,410	82,838 103,151	92,292 112,039	90,116 90,680	77,983 73,857	65,129 47,773

OLEOMARGARINE.

Table 415.—Olcomargarine: Yearly production, United States, 1918 to 1922.¹
[Pounds, net, 000 omitted]

				,			
And the second s		Uncolored.	•		Colored.		
Year.	Animal and vegetable oil.	Exclu- sively vegetable oil.	Evelu- sively animal oil.	Animal and vegetable oil	Exclu- sively vegetable oil.	Exclu- sively animal oil.	Total.
1918. 1919. 1920. 1921.	255, 197 214, 759 161, 636 103, 962 104, 284	88,862 132,906 190,280 99,265 74,128	3,307 3,391 3,843 624 302	7,056 9,303 8,951 5,960 4,977	9,793 5,359 2,026 1,383	1,003 1,165 94 30 1	355,537 371,317 370,163 211,867 185,075
1922. January February March April May June July August September October November December	8,374 8,977 7,649 8,210 7,409 7,534 7,712 8,322 10,002	7, 159 5, 793 6, 204 6, 054 5, 102 4, 471 4, 413 4, 803 5, 361 7, 283 8, 279 9, 116	56 19 34 13 27 33 48 34 34	464 - 392 471 400 389 315 331 331 388 418 507 571	138 92 116 100 104 84 80 88 94 136 146 205	1	16, 574 14, 650 15, 916 14, 202 13, 825 12, 312 12, 370 12, 962 14, 198 17, 887 19, 367 20, 812

¹ Bureau of Agricultural Economics

Table 416.—Production of oleomargarine 1

[Pounds, net, 000 omitted.] COLORED.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total year ended June 30.
1908 1909 1910 1911	526 525 524 663	497 518 501 629	606	543 595 464 588	507 542 389 538	417 403 362 387		334 434 433 454 394	360 487 469 393 439	468 519 474 477 530	463 521 610 539 501	587 634 587 594 616	6,177 5,831
1913 1914 1915 1916	602 610 807	618	638 608 1,131	701 477	586 433 526 652 731	446 395 497 554 592	422 472	494 509 436 569 512	532 488 443 643 573	635 480 548 719 677	606 472 557 741 542	615 583 597 759 521	6,520 6,384 7,595 6,749 8,012
1918 1919 1920 1921	508 1,111 1,540 936 556	1,642 960 816	2,242 1,250 949	2,716 1,139 823	J,114 518	996 328	424	433 1,807 1,019 500	538 681 1,484 577	608 1,087 1,378 692	551 1,719 1,368 693	747 1,626 1,046 656	15,624

OLEOMARGARINE Continued.

Table 416.—Production of oleomargarine - Continued.

[Pounds, net, 000 omitted.]
UNCOLORED.

Year.	Jan.	Feb.	Mar.	Apr.	May	June.	Faly.	Ang.	·'t [4].	Charles !	Sen.	Tot yes	ar ed no
19%	8, 170	4, 452	9.697	7,976	6,707	5,159	" 1,344 5, 199	12.15.1	49 (216)	111 111	Iva-ret 1	15. 11.1 S6	579
1910 1911 1912	15,516 10,8%	12,609 8,935 13,738	13, 1.46 9,676	12,718 6,866	10, 175 5, 421	5,12	4,155	- 14, 5 G - 6, 2 d	12,700	12 hg 5	11 24	15, 472 135, 6 1 - 632 115, 1 1 2 122,	685
1913 1911	11, 15	12, 5,9	12,317	9,711	8,305	1.35	7. 517	5.751	12,796 17,796	11.7 6	13,777	11 277 136,1 11 1963 125 7	707
1915 1916 1917	11.495	11. (8)	15,243	13,971	13.716	-14.830	3, 914	$H_{*}(\mathbb{R}^{3})$	1 1. 1/4/	114. (54)	7 + 1 to	7 (20 198) 21, 23, 215, 21, 22, 225,	7.1
1918 1919	11), 1 (4)	. 19,5 11	-27, 141.	34, 138	29, 133	Pu,(#);	22.790	17 1, 11 4	766 3.27		4 . 02	1,887 (19.5 15 (18) (19.5	Sust
1920 1921 1922	22,650	20, 773 11, 139	22,02	18,685	Lil, adly	4,572	111,	16,612	11, (4,1)	243		73, 70 (37), 11, 13, 200,	181 181
	- 1		man e						,				-

^{*} Published monthly reports began in July, 1908.

Table 417.—Oleomargarine: Materials used in manufacture, 1916 Pr. in pounds.¹
[000 omitted.]

Material.	1916	1917	1915	1979	Lit ii	1 1944	1922
Oles ail Cocunit ail Costonseed oil Milk. Peanut ail	19,000	96, 659 19, 763 63, 652 21, 110 10, 195	(#5, 37 - 61, 77) 18, 1 4 61, 1 24 21, 103	197, 164 168 1791 17, NS6 187, 1988 187, 1988	5019, 50 \$21 503, 7 5 8 78 3 48		1 6.394
Salt Ofeo stearine Noutral lard Ofeo steak Butter	2,636 33,146 397	6, 115 2, 191 12, 101 3, 158 3, 303		11,764	51, 1, 41 ,141 5144 1, 4448	141, 41,0	1, 57 97,057 2,11
Vegetable oil Corn oil Saya-bean oil Edible tailow	1.47	5.63	(n)	118	*******	ted.	1 10
Mustard-seed off Mutton off. Coloring Missellaneous		1 10	1			11a 1,517	
Total	VALUE OF THE PROPERTY OF THE P	-	356,853	1	H2, 62	211,456	

^{1 1916-1920} Institute Margarine Manufacturers. 1921-22, Internal Revenue.

BUTTER.

Table 418.—Butter and cheese: Monthly production, United States, 1917-1923.

[Bellinno (KK)]

CREAMERY BUTTER.

								,					
Year.	Jan.	Feb	Mar	Apr	May.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.	Total.
1917 1918 1919 1920 1921 Average	14 357 52 199 19, 011 58, 966	38, 159 42, 38, 11, 3 6 16, 35 5 56, 356	19, 686 51, 822 56 56 67, 677	51, 809 57, 332 67, 157 (0 622 52, 763	\$5,561 103,941 \$6,815 119,077	05, 863 101, 857 119, 557 111, 695 130, 633	97, 116 104, 156 110, 544 111, 898	83,936 35,148 81 158 90,669 111,638	76, 711 72, 397 68, 815 77, 106 89, 902	63, 846 57, 723 65, 129 81, 371	12, 705 15, 711 15, 011 53, 570 70, 021	15,560 46,662 52,395 71,160	793, 285 317, 995 863, 577 1,051, 938
1922	71,715	65, 761	77,521	53, 551	123, 751	145, 766	129, 131	105, 727	\$7,750				
					AMERI	CAN 6	THEES	1.,		***************************************			
1917	8,149 10,954 10,457	11,550 11,550 11.500	(11,992 19,000	17,931 21.612 15.536	31, 253 31, 53 33, 53 20, 53	38,796 10,184 41,599 11,376 36,111	31,332 35,465 31,313	30, 940 30, 940 26, 757	25,421 26,257 22,955	13, 562 23, 111 20, 051	12, 172 13, 107 13, 308	9,097 10,011 10,203	247,278 281,837 251,681
Average			15, 110	19,905	31.891	10, 280	33,277	20,525	27, 168	21, 166	13,255	9,826	262,095
1922	11,870	12,571	17, 105	13,3%	27.pld	33, 156	Ş0, 120	26, 181	22,990				

CHEESE.

Table 419.—Cheese: Monthly and yearly average price per pound, New York, 1910 to 1922.

Yent.	Jan Feb.	Mitt	Apr.	May.	June.	July.	Ang.	Sept.	Oet,	Nov.	Dec.	Year- ly aver- age.
1910 1911 1912 1913 1914	\$0, 17 50, 17 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	. ls	\$0, 174 - 119 - 15 - 16 - 16 - 16 - 18 - 26 - 23 - 23 - 23 - 23 - 23 - 23 - 23 - 23	\$0. 14 -15 -13 -14 -13 -17 -18 -26 -21 -23 -23 -17 -17	. 15	\$0. 15	. 12 . 16 . 15 . 16	\$0, 15 .16 .16 .16 .15 .14 .25 .28 .21 .21	80. 15 -14 -18 -16 -15 -25 -25 -23 -31 -25 -28 -22	: 15 : 17 : 16 : 15 : 16	20. 16 . 16 . 17 . 16 . 15 . 16 . 21 . 21 . 21 . 32 . 26 . 28 . 21	\$0. 16 .14 .16 .15 .15 .19 .24 .27 .32 .23 .29 .21 .20

CHEESE-Continued.

Table 420. -- Cheese: Monthly receipts at four markets, 1918 to 1922.
[000 omitted]

Year	Jon	Reb	Mar.	Apr.	May.	June.	July	Aug	Sept	Oct.	Nov.	De.	Total.
New York 1918	1 08. 5, 179 3, 337 3, 271 2, 738	2,431 3,337	2,883	5, 114 1, 395 4, 065	4, 693 6, 003	7,075 6,152 5,857	6,655	5, 128	7, 121 3, 253 1, 305	3,307	3,775	1,294 3,762 2,753	62,045 17,003 51,982
Chicago: 1918. 1919. 1920. 1922. Philadelphia:	5,328 6,042	5, 100 5, 423	7,059	6, 297 5, 067 6, 810	7,833 7,711 0,290	9,778 $11,191$ $9,832$	8,539 9,183 7,111	8, 322 6, 599 6, 936	5, 707 6, 7.11	6, 648 6 255 8, 631	5,078 6,795 6,117	4, 992 5, 556 6, 261	54, 536 81, 018 81, 597 85, 818 107, 724
1918 1919 1920 1921 1922 Boston	509 873 1,116 1,144	1,010	1,529 1,489 1,280 1,506	1,654 626 1,396	1,955 1,743 2,223	2, 227 2, 101 2, 00	2, 1 52 1, 657 2, 490	2, 189 2, 311	1,740 1,562 2,056	1, 130 1, 920	1, 501	1, 185 1, 221 1, 091	21,393 16,865 20,951
1918 1919 1920 1921 1922	3.1 620 435 407	274 571	951 955	1,088 511 685	978	2,374 1,12% 2,563	2, 807 2, 200 1, 701	1, 721 2, 001 1, 749 1, 173 1, 461	1, 122 1, 343 1, 262	1,479	571 1,231 1,235 1,249 910	791 153 501	11, 190 17, 721 12, 997 13, 208 13, 521
Total 4 markets: 1918	110, 807	110, 398	12,001	11, US 7,602 12,950	18, 80n 15, 128 18, 491	21, 454 20, 872 20, 791	20, 560 18, 843 17, 957	47, 545 45, 815 45, 186	17, 645 11, 895 14, 390	14, 764 12, 072 15, 882	13, 237 13, 237 12, 122	11,172 $11,022$ $10,600$	117, 336 182, 177 158, 462 171 989 190, 678

Table 421.—Cheese Monthly and yearly receipts by States, 1922.

[000 onutted]

BOSTON.

-	-	-	-	****	m	~		-			4	-	5 To be the second
State.	Jan.	Feb.	Mar	Apr.	May	June.	July	Aug.	Sept.	Oet.	Nov.	Dec.	Total.
Illinois. Chicago Indiana lowa Muine					Lbs. 46 122	126			154 (1)		Lbs. 39 175 28 (1)		Lbs. 959 1, 171 55 14
Massachusetts Michigan Minnesota New Hampshire	ı	1 23 10	I I	(1)	(1) 6 1	(1) 51	93 1	1	ı	23 43 10	1 65 10	1	31 296 7 79
New York New York City. Ohio. Pennsylvania. Philadelphia	171 123 10 5	(1)		405 47 22 13	385 59 6	142 6	142	96 1		377 122 3 9	209 111 (¹) 13 7	175 74 5 5	5, 550 1, 267 33 117 33
Vermont	17	23 48	29 59 3	39 309				291		12 170 44		11 123	3, 115 209

¹ Less than 500 pounds.

CHEESE-Continued.

Table 421.—Cheese: Monthly and yearly receipts, by States, 1922—Continued.
[000 omitted]

NEW YORK CITY.

		1	-	~~~~			,				,	,	
State.	Jan.	Feb.	Mar	Apr.	Muy.	June	July.	Aug	Sept.	Oct.	Nov	Dec.	Total.
Colorado	Lbs	I hs.	Lbr.	Lbs.	Lbs.	Lbs (1)	Lbs.	Lbs.	Lbs.	Lbs. 39	Lbs.	Lbs	Lbs. 40
District of Columbia Illinois Indiana Iowa.	505 (1)	490 1	(1) 151 51	(1) 577 16 8		(1)	470	(1) 808 (1) (2)	410 25 51		659	691 (1)	6, 997 183 93
Mansas Mansahud Massachusetts Michigan Minnesota	(') 12 55	1 5 3 (1)	(¹) 65 82 12	$\begin{bmatrix} 1 \\ 22 \\ 30 \\ 2 \end{bmatrix}$. 5	(¹) 3 63 133		28		14	31	25 (1) 14 43 1	26 14 189 506 491
Missouri Nebiaska New Jersey New York	1, 550	1, 568	26 2. 00	1,919	(¹) 1 2, 489	74 15 2,550	32 (¹) 1 2, 142	$^{\circ}$	20 (1)	58 3 1,866	(1)	(1) 20 1, 098	315 23 46 21,771
Ohio	61	76	ii	29	76	80	7 152	41	22	47	1, ./1.	(1)	602
Pennsylvania	140 (1)	83	211	168	86		97	58 74	62	47	63	48	1, 181 71
Vern.ort Virgina Weshington	(1) (1)		(1)	(i) (j)	(1) (1)	26 1 50	····· 2	(1)	(¹)	(1)	(1)	1 3	97 5 54
Wisconsin	364 3	7(H) 2	916 71	1,540 111	1, 465 219	2, 304 261	2, 112 158	1, 780 75	1, 196 57	1, 111 23	1, 233 (1)	1, 073 181	16, 100 1, 190

PHILADELPHIA

The second secon							-	-					
Connecticut	Ĺ										(1)	Ī	
Delaware District of Columbia				7	(1)	, (1)					2	3 15	12 15
Illinois		85 5		155	225 (1)	322 25		277 31		377	356		
	~			l									
Iowa Kentucky		(1)	(1)	(1)	2			3	7	8	4	1	25
Maryland. Massachusetts				i	(1)							3	4
Massachusetts Michigan			(1)	⁸				82	"ii	22	(¹)	(¹)	115
Minnesota				1									1
Missouri New Jersey		(1)	(1)	·····i	(1) 2		i	(1)			i	5	14
New York	363	310	¥12	319	235 22		315	344 28	656 (1)	642 (1)	406 128		4,661 223
Pennsylvania	106	141	76	45	55	13	25	15	13		2	17	517
Virginia West Virginia			(1)	(1)	(1)		(1)	(1)				(¹) 30	30
Wisconsin Canada		576	721	922	1, 198	1,186	1,227	1, 107	842	1,013	839		
	3												-

Dess than 500 pounds.

^{2 500} pounds.

CHEESE—Continued.

Table 421.—Cheese: Monthly and yearly receipts by States, 1922—Continued.

[000 omitted.]

CHICAGO

States.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct	Nov	Dec.	Total
Calıfornia	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs 27	Lbs.	Lbs.	Lbs.	Lbs	Lbs 30	Lbs.	Lbs 57
ColoradoIdaho	5	4	2	7	5	(1)	4	5	U	47	8	11 19	104 19
Illinois Indiana	196 1	$\frac{214}{7}$	286 1	209 1	284 1	532 2	373 4	50S (1)	378 1	1.10 (1)	347 1		4, 011 22
Iowa Kentucky	35 (1)	33 (1)	23	32	64 10		103 (1)	162	47 1	(1) (1) 13	19	136 2	810 13 13
Massachusetts Michigan Mınnesota	71 239	75 101	224 309		203 149				83 99	51 115	92 132	44 135	1,415
"Micholly	127	6	8		2 24	10	1	(1)	12	2	1	53	222
Montana Nebraska New Jersey	(1)	2	45	5	(1)	(¹) 1	(t)	(+)	6 2 2 2 2 mg		(¹)	(1)	26 6 45
New York	43	209	159	86	609	262	308	105	135	110	199	136	
Ohio. Oklahoma Pennsylvania. South Dakota	7 1 1	27 (¹) 8	26 (1) 9		35 42	(1)	1 4 53	16 1 28	(1) 23	81 23	(1) 68	50 22	301 6 308 17
Texas	5	4			(1) (1)	(1)		(1)				(₁)	9
Utah Wisconsin Canada	5, 200	5, 439	6, 952 42	7, 116 (1)	8,829	10, 097 25	8, 993 	9, 582 	8,601 26	9, 423 23	7, 876 66	7,518 68	95, 656 250

SAN FRANCISCO.

California		262 20 48 64	231 18 2 109	247 44 23 115	349 60 26 40	381 42 40	305 39 7 1	338 23 33 5	380 25 5 1 (¹)	205 16 21 124	235 17 3 133	261 8 26 160	3, 416 322 222 855
Michigan Missouri Montana				(1)	1	(¹)	(¹)			25 21		32	1 25 56
Nevada New Mexico		2	(¹) ²	2	4		2		6				18
New York Ohio		(¹)	1	2	1	3	163	4 28	71	28	40		314 28
Oregon	170	102	38	169	284	367 (¹)	262	341	237	280	55	143	2,448
Texas	(1)	(1) 9	(1)	(1)		1			•••••	•••••	••••	•••••	10
Washington Wisconsin Wyoming	(¹) 12	(1) 127	69	12 74	9 133	5 124	7 115	35 341	2 148 2	76	31 37	6 97	108 1,353 2

Less than 500 pounds.

CHEESE—Continued.

Table 422.—Cold storage holdings of cheese in United States, 1916 to 1922.

AMERICAN CHEESE.

[000 omitted]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1916	Lbs 28, 558 31, 855 66, 784 19, 823 53, 168	22, 113 56, 298 15, 186	15, 560 37, 743 9, 837	9, 842 27, 965 6, 750	7,928 17,736 6,027	11,626 20,395 12,478	31, 159 30, 05± 37, 501	67, 595	91, 545 55, 742 76, 661	90, 671 42, 065 81, 359	78, 087 33, 402 72, 889	75, 166 25, 625 62, 508
Average	40,038	31, 287	22, 110	15, 286	11,010	13,060	29, 545	52,425	66, 219	63, 736	55, 731	48,060
1921 1922	34, 115 27, 691	25, 000 21, 430	17, 477 15, 006	14, 201 10, 745	13. 405, 10, 868	17, 814 15, 481	34, 948 33, 130	41, 284 4h, kou	46, 635 53, 625	45, 163 49, 473	42, 9¢9 40, 852	34,055 37,291

ALL CHEESE OTHER THAN AMERICAN.

1917 1918 1919 i 1020 1 1021 1 1922 1	2,836 2,197 10,402 10,263 11,526 10,785 17,053 15,207	2,093 2 8,771 8 9,617 8 12,979 10	,013 2,202 ,352 8,810 ,713 8,642 ,613 16 474	2,692 10,813 9,839 10,639	5, 171 13, 905 14, 819 12, 668	7, 988 15, 749 18, 522 15, 034	13, 229 15, 928 19, 886 16, 268	12, 731 15, 234 19, 975 17, 203	10, 963 15, 091 20, 526 16, 536	11, 818 13, 906 18, 879 14, 948
------------------------------------------------------	----------------------------------------------------------------	--------------------------------------------	-------------------------------------------------------	------------------------------------	-----------------------------------------	-----------------------------------------	------------------------------------------	------------------------------------------	------------------------------------------	------------------------------------------

Table 423 — ('heese: International trade, calendar years 1909-1921.

[Cheese includes all cheese made from milk, "cottage cheese," of course, is included. See "General note," Table 161.]

C	Average,	1909-1913	1(19	19	20	19	921
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Bulgana. Canada Italy. Nethorlands.	1,000 pounds. 1 63 1,054 13,308 522	1,000 pounds. 5,584 167, 260 60, 560 127, 379	1,000 pounds. 253 11,151 42	1,000 pounds. 107,633 1,810 27,372	1,000 pounds. 480 5,893 489	1,000 pounds. 142,768 2,790 99,738	1,000 pounds. 908 1,780 802	1,000 pounds. 137, 180 16, 664 115, 279
New Zealand Russia Switzerland PRINCIPAL IMPORT-	3, 911 7, 150	55, 561 7, 011 70, 075	996	176, 099 1, 369	4, 368	136, 870 3, 202		10, 596
ING COUNTRIES. Algeria. Argentina. Australia. Australia. Belgium Belgium British South Africa. Cuba.	6, 592 10, 147 360 12, 298 31, 771 4, 178 5, 169 4, 520	138 ² 6 799 966 354 ² 1 4	2,671 209 29 16,548 210 45 2,923	58 19, 562 7, 516 179 6 1, 580	5, 126 72 8 7, 698 28, 091 1, 224 1, 235 5, 554	150 22, 249 9, 530 7, 397 4 343 (4)	5, 777 3 7, 342 34, 331 148 45	12, 513 1, 752 8 441
Denmark Egypt. France Germany Spain United Kingdom	1, 414 8, 182 49, 056 48, 687 5, 032 257, 407	527 5 48 26, 880 1, 967 53 950	385 186 15, 238 557 236, 362 11, 332	5,725 59 6,159 705	1, 657 25, 289 50, 344 3, 748 395, 832 15, 994	21, 281 48 15, 130 173 354 451 16, 292	542 3, 452 40, 032 4, 504 312, 783 26, 866	27, 648 165 17, 014 689 479 11, 772
United States Other countries Total	46, 346 17, 947 535, 417	5, 142 6, 852 538, 124	11, 332 12, 529 311, 697	14, 160 385 370, 488	15, 994 16, 481 479, 725	6, 433 485, 206	8, 065 449, 271	511, 262

¹ Two-year average.

³ Austria only.

⁵ One year only.

EGGS.

Table 424 — Eggs: Farm price, cents per dozen, 1st of month, 1909-1922.

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.
1909	30. 5 30. 4 29. 5 26. 8	25.8 28.9 22.1 29.1 22.8	20. 1 22 9 16. 5 24. 5 19. 4	16. 8 18 6 14. 9 17. 8 16. 4	17.8 18.6 14.7 17.1 16.1	18. 4 18 3 14 5 16. 7 16. 9	18.5 18 2 14.2 16.7 17.0	19 2 17 6 15 5 17.4 17.2	20. 2 19. 4 17. 4 19. 1	22. 1 22. 4 20. 0 22. 0 23. 4	24. 8 25. 3 23. 5 25. 9 27. 4	28. 4 29. 0 28. 7 29 7 33. 0
1914 1915 1916 1917 1918	30.6	28. 4 29. 2 26. 8 35. 8 49. 4	24. 2 21. 3 21. 2 33. 8 40. 4	17. 6 16. 6 17 9 25. 9 31. 2	16.8 17.1 18.1 30.0 31.0	17.3 16 6 19.0 31.1 29 8	17 6 16.8 19 7 28.3 30 7	18 2 17.0 20 7 29 8 34, 4	21.0 18.7 23 3 33.2 36.4	23.5 22.3 28.1 37.4 41.6	25. 3 26. 3 32. 2 39. 4 47. 2	29.7 30.6 38.1 43.3 55.0
1919 1920 1921 1922		48. 3 56. 9 49. 6 32. 0	33.1 46.6 20.2 25.4	34 3 38, 8 20, 4 19, 9	36.8 37.4 20.2 21.0	38. 6 37. 3 19. 4 21. 2	36.8 55.7 22.0 20.4	39, 3 40, 0 26, 6 20 5	41. 0 44. 2 30. 4 22 7	50 1 34. 2 30. 5	54 0 56.9 44.2 37.6	61.9 65.0 51.1 46.1
Av ,1913–1922	43. 2	37.9	29 5	23 9	24.4	24.7	24.6	26, 4	29.0	33 6	39 0	45. 4

Table 425.—Eggs: Monthly and yearly average price per dozen at certain cities, 1910–1922.

WESTERN FIRSTS, AT BOSTON.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly aver- age.
1910 1911 1912 1912 1913 1914	\$0.32 .27 .33 .26 .33	\$0.27 .19 .36 .24 .30	\$0.23 .17 .22 .20 .25	\$0. 22 .17 .21 .20 .20	\$0.21 .17 .20 .21 .21	\$0.20 .16 .19 .20 .20	\$0.19 .18 .20 .18 .21	\$0.21 .18 .21 .23 .23	\$0.24 .20 .25 .28 .25	\$0. 26 . 25 . 28 . 30 . 26	\$0.30 .29 .31 .40 .34	\$0.32 .33 .30 .36 .38	\$0. 25 . 21 . 26 . 26 . 26
Average	.30	.27	. 21	.20	.20	. 19	. 19	.21	. 24	. 27	. 33	.34	. 25
1915 1916 1917 1918 1919	.36 .31 .45 .63 .63	.27 .27 .43 .57 .45	.20 .23 .31 .38 .42	.21 .22 .34 .36 .44	.20 .23 .36 .35 .47	.19 .23 .33 .35 .43	.19 .24 .34 .41 .45	.20 .27 .37 .42 .46	.25 .31 .41 .46 .47	.28 .34 .41 .54 .61	.32 .40 .49 .65 .67	.34 .46 .56 .68 .80	. 25 . 29 . 40 . 48 . 53
Average	.48	.40	. 31	.31	.32	.31	.33	.34	. 38	. 44	. 51	. 57	. 39
1920	.71 .68 .42	.60 .43 .40	.48 .31 .26	.45 .27 .26	.45 .25 .27	.43 .26 .25	.45 .32 .24	.50 .34 .25	. 55 . 38 . 38	.62 .49 .44	.76 .60 .53	.80 .54 .55	. 57 . 41 . 35

FRESH FIRSTS, AT NEW YORK.

·		,	,										
1910	\$0.38 .28 .34 .24 .33	\$0.27 .19 .36 .22 .29	\$0. 23 .17 .22 .19 .26	\$0 22 .17 .20 .19 .20	\$0.21 .17 .19 .20 .20	\$0. 20 .15 .19 .19 .21	\$0. 18 .17 .20 .19 .21	\$0. 21 . 18 . 21 . 23 . 24	\$0. 24 . 21 . 24 . 27 . 26	\$0. 26 . 24 . 26 . 29 . 27	\$0.31 .32 .31 .39 .35	\$0.34 .35 .29 .36 .38	\$0. 25 .22 .25 .25 .27
Average	.31	.27	. 21	.20	. 19	. 19	. 19	. 21	. 24	. 26	. 34	.34	. 25
1915	.38 .31 .46 .65 .62	.26 .26 .45 .58 .44	.20 .22 .31 .38 .44	.21 .22 .34 .35 .43	. 20 . 22 . 35 . 35 . 46	.20 .23 .33 .36 .44	.20 .25 .34 .41 .46	. 22 . 29 . 38 . 43 . 48	.26 .33 .41 .47 .51	.30 .34 .41 .53 .62	.35 .41 .49 .65 .69	.34 .46 .57 .67	. 26 . 30 . 40 . 49 . 53
Average	.48	.40	. 31	.31	. 32	. 31	. 33	. 36	.40	. 44	. 52	. 57	. 40
1920 1921 1922	.71 .67 .41	. 59 . 42 . 38	.48 .31 .25	.44 .27 .26	. 44 . 25 . 27	. 43 . 27 . 25	. 47 . 33 . 24	.51 .35 .26	. 57 . 39 . 39	.64 .49 .43	. 77 . 58 . 53	.78 .54 .53	. 57 . 41 . 35

Table 425.—Eggs: Monthly and yearly average price per dozen at certain cities, 1910-1922—Continued.

WESTERN EXTRA FIRSTS AT PHILADELPHIA.

	W.J	ESTE.	RN E.	XTRA	FIRS	STS A	T PH	ILAD.	ELPH	IA.			
Year.	Jan	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly aver- age
1910 1911 1912 1913 1914	. 28	\$0.29 .21 .36 .23 .28	\$0. 23 .18 .23 .19 .27	\$0. 22 .18 .21 .19 .20	\$0.22 .18 .20 .21 .21	\$0. 21 .17 .21 .21 .22	\$0. 22 . 18 . 22 . 22 . 22	\$0. 24 . 20 . 23 . 27 . 26	\$0.26 .23 .26 .30 .28	\$0. 29 . 27 . 30 . 33 . 30	\$0.33 .34 .34 .39 .35	\$0.37 .33 .31 .37 .40	\$0. 27 23 . 27 . 26 . 28
Average	. 32	.27	. 22	. 20	. 20	. 20	. 21	. 24	. 27	. 30	. 35	. 36	. 26
1915	.39 .31 .47 .62 .63	. 27 . 26 . 45 . 61 . 44	. 20 . 23 . 31 . 37 . 41	.21 .22 .35 .37 .44	.20 .23 .36 .36 .47	. 20 . 24 . 35 . 39 . 46	.20 .26 .36 .43 .51	.23 .29 .39 .46 .52	.27 .33 .42 .50 .54	.32 .36 .42 .56 .65	.39 .41 .48 .67 .73	.36 .45 .56 .69 .80	. 27 . 30 . 41 . 50
Average	.48	.41	. 30	.32	.32	. 33	. 35	. 38	. 41	. 46	. 54	. 57	. 41
1920 1921 1922	.73 .66 .42	.62 .43 .40	. 48 . 32 . 26	. 44 . 28 . 27	.45 .25 .27	. 47 . 28 . 27	.50 .35 .26	. 54 . 39 . 27	.60 .41 .39	. 67 . 53 . 48	.81 .64 .59	. 80 . 57 . 55	. 59 . 43 . 37
			FRE	SH F	IRST	TAS	CHICA	LGO					
1910	\$0. 34	\$0. 26	\$0. 21	\$0. 20	\$ 0. 19	\$0. 18	\$0.16	\$0. 18	\$ 0. 22	\$0. 24	\$0. 28	\$0.30	\$0.23
1911 1912 1913 1914	.26 .33 .24 .32	.18 .32 .21 .27	.16 .21 .18 .22	.15 .19 .18 .18	.15 .18 .18 .19	.13 .17 .18 .18	.14 .18 .17 .19	. 16 . 19 . 21 . 21	.18 .22 .24 .22	. 21 . 24 . 26 . 23	. 28 . 26 . 33 . 28	. 29 . 25 . 33 . 32	.19 .23 .23 .23
Average	.30	. 25	. 20	. 18	.18	. 17	. 17	. 19	. 22	. 24	. 29	. 30	. 22
1915 1916 1917 1918 1919	.34 .29 .41 .58 .58	.25 .24 .42 .51 .38	.18 .19 .28 .35 .39	. 19 . 20 . 32 . 33 . 40	.18 .21 .34 .32 .43	.17 .21 .31 .32 .40	.17 .22 .32 .37 .42	. 19 . 24 . 34 . 38 . 42	. 23 . 28 . 37 . 43 . 46	. 26 . 31 . 37 . 50 . 57	. 29 . 36 . 43 . 61 . 63	. 29 . 39 . 48 . 62 . 73	. 23 . 26 . 37 . 44 . 48
Average	. 44	.36	. 28	. 29	.30	. 28	.30	.31	. 35	. 40	. 46	. 50	. 36
1920 1921 1922	.65 .60 .37	.52 .35 .32	. 45 . 27 . 23	. 41 . 24 . 23	.41 .22 24	.39 .24 .22	. 42 . 28 . 21	. 47 . 30 . 22	. 53 . 33 . 29	. 57 . 44 . 35	. 68 . 52 . 48	.71 .51 .48	. 52 . 36 . 30
Managadia inancesana manazar republikan erik - Anomal		FR	ESH I	EXTR	AS A'	r san	FRA	NCIS	co.	· · · · · · · · · · · · · · · · · · ·	•		-
1910 1911 1912 1913 1914	\$0.34 .31 .33 .28 .40	\$0. 26 . 25 . 24 . 21 . 27	\$0. 21 . 19 . 20 . 18 . 20	\$0. 24 . 19 . 21 . 19 . 22	\$0. 25 . 21 . 21 . 20 . 23	\$0. 27 . 21 . 22 . 24 . 24	\$0.30 .26 .25 .27 .28	\$0.35 .31 .29 .32 .33	\$0.41 .38 .38 .39 .40	\$0. 47 . 46 . 44 . 50 . 47	\$0.54 .51 .48 .57 .48	\$0.40 .40 .34 .47 .46	\$0.34 .31 .30 .32 .33
Average	. 33	. 25	. 20	. 21	. 22	. 24	. 27	. 32	. 39	. 47	. 52	. 41	.32
1915 1916 1917 1918 1919	.31 .33 .38 .63 .61	. 23 . 26 . 32 . 46 . 41	.21 .20 .26 .39 .42	. 22 . 22 . 31 . 40 . 48	. 23 . 23 . 34 . 40 . 52	. 23 . 25 . 31 . 43 . 52	. 25 . 27 . 35 . 48 . 54	.31 .33 .43 .55	.36 .39 .46 .62 .69	. 46 . 47 . 53 . 75 . 78	.51 .50 .57 .82 .87	.41 .40 .52 .80 .78	.31 .32 .40 .56 .60
Average	. 45	.34	. 30	. 33	.34	. 35	.38	. 44	. 50	. 60	.65	. 58	. 44
1920	. 64 . 60 . 39	. 49 . 37 . 30	. 44 . 33 . 26	. 44 . 29 . 28	. 46 . 26 . 27	. 47 . 29 . 28	. 57 . 41 . 29	. 60 . 45 . 33	.72 .52 .48	. 83 . 65 . 64	.87 .68 .61	.78 .57 .52	.61 .45 .39

Table 426.—Eggs: Monthly and yearly receipts, in cases, by States, 1922.

[000 omitted.] BOSTON.

State.	Jan	Feb.	Mar.	Apr.	May	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Illinois. Chicago, Ill Indiana. Iowa. Kansas.	14 15 12 5 14	27 8 18 9 17	62 6 42 15 16	153 3 99 18 11	125 1 58 21 3	88 2 28 16 3	57 1 14 15 2	39 2 8 11 1	24 1 8 13	27 2 14 12 10	20 2 11 4 1	20 10 8 3 2	656 53 320 142 83
Kentucky Maine Massachusetts Michigan Minnesota	7 2	(1) 8 3 (1) (1)	4 11 1 2 1	10 12 1 7 16	6 12 1 10 30	(1) 8 2 4 28	9 1 3 14	(1) 7 4 4 8	6 1 4 8	6 1 3 3	(1) 6 5 3 (1)	(1) 7 2 2 (1)	20 99 24 42 108
Missouri	11 3 3 4	14 4 3 1	16 4 3 2	22 3 3 2 (1)	9 1 4 2	7 1 4 3	4 2 4 2	(1) 3 2	(1) 2 1 (1)	6 1 4 2	(1) 3 3	2 3 3	100 19 39 27
OhioOklahomaSouth Dakota		6 1	9 3 1	27 2 2 2	20 (1)	13 1 2	6	(1) 1	5 1	8 (1)	4	(1) ³	108 7 9
Tennessee	2	(1) 3 (1)	3 (1) (1)	1 3 1	3 5 1	5 4	4 2 (1)	(1) 2 2 2	2 1 1	(1) (1)	(1) 3 (1) (1)	(1) (1) (1)	7 37 11 3

NEW YORK CITY.

Alabama Arkansas California Canada Delaware	1 1 23 4 2	2 2 51 8 3	5 4 65 1 6	14	1 20 8	24 6	25 5	17 4	22	26 2	41	 26 	9 8 354 13 51
Illinois Indiana. Iowa Kansas Kentucky	64 23 20 15 15	72 36 23 21 20	191 101 56 36 33	263 146 163 33 37	212 123 162 21 11	156 108 123 21 7	123 65 112 23 5	77 43 92 13	78 33 70 10 2	62 23 61 13 4	41 13 23 11 2	40 12 16 5 7	1, 379 726 921 222 143
Maryland Massachusetts Michigan Minnesota Missouri	$\begin{array}{c} 4 \\ 1 \\ 1 \\ 4 \\ 22 \end{array}$	5 1 3 5 41	11 7 7 80	12 14 37 78	25 46 56	8 9 40 30	9 10 28 20	6 7 17 15	5 1 11 16 21	5 2 9 10 36	3 2 2 3 17	5 2 4 22	84 8 100 217 438
Nebraska. New Jersey. New York. Ohio	3 3 28 19	6 3 27 21	9 13 51 68	3 20 77 98	6 22 77 92	2 19 64 72	12 42 45	1 10 39 34	3 7 33 24	2 7 21 19	2 7 12 10	1 11 20 12	38 134 491 514
Oklahoma Oregon Pennsylvania South Dakota	3 3 14	2 2 14 1	6 4 27	3 34 5	1 37 8	1 50 7	2 27 1	1 22 4	1 17 2	9 1	1 5	9 1	15 15 265 30
Tennessee Texas Virginia Washington	34 2 5 19	33 3 2 14	77 25 13 12	41 35 14 8	18 10 10	7 5 12	6 4 13	3 3 8	3 2	5 2 13		16 3 22	251 65 65 143
West Virginia Wisconsin Parcel post			3	1 11 4	1 7 4	1 6 3	1 9 4	1 6 3	4 3	3 1	3 2	2 2	7 54 26

¹ Less than 500 cases.

Table 426.—Eggs: Monthly and yearly receipts, in cases, by States, 1922—Continued. [000 omitted.]

PHILADELPHIA

			,						,	,			
State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Alabama Arkansas Delcware Illmois Indiana	1 3 19 2	1 1 3 19 2	2 2 8 26 7	2 9 47 35	7 44 37	3 19 20	3 22 16	4 17 13	1 22 7	2 14 4	1 15 3	2 10 3	3 6 46 274 149
Iowa Kansas Kentucky Maryland Michigan	4 9 1 4 1	9 3 4 (1)	6 8 3 14 5	19 6 5 14 30	17 3 12 35	4 1 2 5 23	5 2 (1) 3 15	4 2 1 3 15	6 3 2 14	(1) 2 6	(1) (2) 2 1	(1) 2 (1) 3 (1)	71 48 15 68 145
Minnesota Mississippi Missouri Nebraska New Jersey	$\begin{array}{c} 2 \\ 17 \\ 2 \\ 1 \end{array}$	1 15 3 (1)	1 11 16 1 (1)	9 	9 17 3 (1)	6 7 (1) (1)	5 9 (¹)	7 11 (1)	12 (1) 9 1 (1)	7 (1) (1)	3 3 1 1	1 17 2 (¹)	63 11 152 15 2
New York North Carolina Ohio Oklahoma	$3 \\ (1) \\ 3 \\ (1)$	(1) (1) 6 1	(1) (1) 16 1	1 (1) 39 1	1 (1) 26	1 (1) 18 (1)	1 13	(1) 11	(1) 6	(1) 4	(1) 4	(1) 3	17 149 3
Pennsylvania South Dakota Tennessee Texas	(1) 10 1	11 (1) 13 1	16 (1) 16 8	18 1 16 1	27 1 5 (1)	11 2 (1)	9 3 (1)	12 3 (¹)	8 1 (1)	9 2 1	8 1 (¹)	9 (1) (1) (1)	147 14 61 11
Virginia West Virginia Wisconsin	8 2 1	10 2 1	22 3 (1)	28 3 (¹)	20 3 5	9 2 3	10 2 3	10 2 4	8 2 4	6 2 3	$\begin{array}{c} 7 \\ 2 \\ 2 \end{array}$	6 2 3	144 27 29

CHICAGO.

Arkansas Colorado Illinois Indiana Iowa	1 12 1 29	2 (1) 23 2 53	6 2 43 1 91	71 1 149	1 62 1 143	(1) 2 40 1 135	1 18 1 81	(1) 13 (1) 67	(1) 7 (1) 33	(1) 5 1 25	(1) 6 (1) 20	(1) (1) 10 (1) 18	14 6 310 9 844
Kansas Kentucky Michigan Minnesota	$\begin{array}{c} 41 \\ 2 \\ 1 \\ 12 \end{array}$	49 3 1 13	76 4 2 21	115 1 1 66	100 4 3 115	82 (1) 3 77	27 1 2 48	15 (1) 2 50	6 (1) 1 34	13 1 1 14	5 1 (1) 9	3 1 1 3	532 18 18 462
Mississippi Missouri Nebraska North Dakota	1 41 27 (1)	(1) 61 27 (1)	2 135 43 (1)	5 244 52 3	(1) 197 56 6	3 153 61 4	(1) 72 40 4	38 23 3	(1) 36 13 2	(1) 35 7 1	(1) 18 2 (1)	(1) 15 1 (1)	12 1,045 352 23
Ohio Oklahoma South Dakota Tennessee	(1) 18 7 3	1 26 9 5	30 21 6	(1) 22 75 5	(1) 6 91 1	(1) 1 59 (1)	(1) (1) 49 (1)	(1) (1) 40 (1)	(1) (1) 27 1	(1) 18 1	(1) 5 3	(1) (1) 4 1	1 103 405 26
Texas Washington Wisconsin	3 9	<u>4</u> <u>16</u>	9 33	$\frac{3}{72}$	(1) 3 105	(1) 	45	48	31	1 17	(1) 13	₁₂ .	22 3 474

SAN FRANCISCO.

		,				1	1	1		1			
California Idaho	54	59	101	116	105	79	71	63	49 1	43	40	44	824 1
Oregon Washington	(1) (1)		(¹)	1	(¹) 1	2	1	(1) (1)	(¹) 1	1 1	(¹) 1	(¹)	7 6

¹ Less than 500 cases.

Table 427 — Eggs: Monthly and yearly receipts, in cases, at certain cities, 1917-1922.

[000 omitted.]

BOSTON.

Year.	Jan	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1917 1918 1919 1920	56 31 67 72 84	75 59 116 113 138	171 192 184 149 206	252 309 327 253 359	318 305 235 384 294	193 171 189 204 183	113 133 148 119 137	87 119 128 110 130	84 91 80 95 100	80 96 97 66 88	43 46 48 49 52	30 52 40 34 52	1,502 1,604 1,659 1,648 1,823
Average	62	100	180	300	307	188	130	115	90	85	48	42	1,647
1922	101	133	214	403	312	224	143	105	85	106	74	70	1,970
		<u> </u>	·	N	EW Y	ork.		<u> </u>	·			<u> </u>	
1917	143 106 214 207 314	139 155 486 315 476	405 712 667 618 999	747 908 1, 026 563 1, 012	738 681 911 697 742	565 551 669 725 681	395 483 532 470 525	337 450 438 370 517	333 333 377 334 440 363	284 288 318 272 362	169 183 192 209 251	102 177 178 211 260	4,357 5,027 6,008 4,991 6,579 5,392
1922	335	424	919	1,178	994	784	574	427	381	337	226	242	6, 821
1918	64 76 64 109	100 81 120 113	112 174 120 202 192	164 301 164 237 316	190 271 242 235 273	164 185 180 158 142	147 129 107 121 126	107 115 116 145 124	102 107 118 124 108	112 119 81 100 76	63 76 57 66 60	56 63 54 70 64	1, 217 1, 704 1, 396 1, 642 1, 703
					сніс	AGO.							
1917. 1918. 1919. 1920.	118 108 101 109 133	86 29 253 251 356	376 415 458 458 679	927 1,027 1,024 840 750	1, 200 926 915 800 684	897 733 767 620 460	626 564 401 380 297	450 460 275 260 258	361 338 220 217 201	295 240 125 132 137	193 124 51 47 86	150 86 27 40 114	5, 679 5, 050 4, 617 4, 154 4, 155
Average	114	195	477	914	905	695	454	341	267	186	100	83	4, 731
1922	210	296	525	887	898	695	389	300	191	140	82	71	4,684
				SAl	N FRA	NCIS	co.						
1917	50 53 48 44 58	76 81 59 55 71	94 80 73 102 123	91 93 83 114 109	92 83 93 80 100	79 71 80 76 79	52 51 66 67 62	45 39 62 55 57	35 34 42 42 42 44	37 27 32 43 40	28 26 27 36 33	37 29 33 43 35	716 667 698 757 811
Average	51	68	94	98	90	77	60	52	39	36	30	35	730
1922	54	59	102	118	106	81	72	63	51	45	42	45	838

Table 428.—Cold storage holdings of case eggs, 1916 to 1922 (cases).

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1916 1917 1918 1919	1,508 920 1,300 740 1,542	458 149 200 130 342	35 7 20 26 29	264 190 344 320 122	2, 327 2, 105 2, 957 3, 278 2, 135	4,593 4,922 5,499 6,098 5,143	5,574 6,617 6,554 7,659 6,747	6,060 6,895 6,568 7,850 6,872	5, 600 6, 436 6, 265 7, 685 6, 372	4, 868 5, 837 5, 369 6, 858 5, 295	3,985 4,638 3,812 5,087 3,838	2,146 2,948 2,071 3,341 1,824
Average	1,202	256	23	248	2, 560	5,251	6,630	6, 849	6, 472	5, 645	4, 272	2,466
1921 1922	408 889	43 179	43 13	1,926 950	4,909 4,648	6,844 8,056	7,534 9,811	7,605 10,161	7,210 9,608	6, 269 7, 924	4,380 5,726	2, 403 3, 257

POULTRY.

Table 429.—Chickens: Farm price, cents per pound, 1st of month, 1909-1922.

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1909	10.9	9 9 11.1 10 6 10 3 10.9	10.0 11.6 10.6 10.5 11.1	10 2 11. 9 10 8 10. 8 11. 6	10.6 12.4 11.0 11.1 11.8	10.9 12.4 11.0 11.1 12 0	11. 1 12. 3 11. 2 11. 0 12 1	11. 2 12 2 11. 2 11. 3 12 4	11.1 11.9 11.1 11.3 12.4	11.3 11 6 10.9 11.5 12.5	10.9 11 3 10.3 11 2 12 1	10.8 10.6 9.6 10.8 11.5
1914	11.2	11 7 11 5 11 9 14 7	12 1 11 7 12.2 15.5	12 3 11 9 12 6 16 1	12.5 12 1 13 2 17.5	12.5 12 2 13 5 17.5	12 7 12 2 13 8 17.3	12 8 12 2 13 8 17 1	12.7 12.1 13.9 17.2	12.5 12 0 14 3 18.1	11.9 11 8 14 3 17.7	11.3 11.5 14.2 17.5
1918 1919 1920 1921 1922		18.8 21 6 24 1 21 9 18.8	19 9 22. 2 25. 4 22. 1 19. 4	19 8 23 5 26 8 22.2 19.4	19 8 25 2 27 4 21 7 19.9	20 0 25.7 27.2 20 7 20.3	21 2 25. 2 27. 0 21 1 20 4	22.6 25 9 27 4 21 2 19 3	22 8 25.7 26 7 20.9 18.5	23 1 24.2 26 4 20.3 18 7	22.4 22.9 23 4 19.0 18.5	21.8 22.3 22.1 18.4 17.5
Av., 1913–1922.	16.0	16.6	17 2	17.6	18.1	18 2	18 3	18 5	18.3	18.2	17.4	16.8

Table 430.—Turkeys: Farm price, cents per pound, 15th of month, 1913-1923.

Year.	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20	1920-21	1921–22	1922-23
Oct. 15	14.6	14 1	13 7	17.0	20.0	23 9	26. 6	30.0	25. 7	25 1
Nov. 15	15.2	14 1	14. 8	18.6	21.0	25. 7	28. 3	31.8	28. 2	29. 5
Dec. 15	15.5	14.5	15. 5	19.6	23.0	27. 0	31. 1	33.1	32. 5	32. 3
Jan. 15	15.5	14.5	15. 6	19.5	22.9	27. 3	32. 0	33.0	30. 7	29. 7

POULTRY-Continued.

Table 431.—Dressed poultry; Monthly receipts at four markets, in pounds, 1920 to 1922.

[000 omitted, gross weight.]

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June	July.	Aug.	Sept	Oct.	Nov.	Dec	Total.
New York: 1920 1921.	11, 217 11, 441	7,006	3, 928 5, 190	5,021	5, 480 4, 883	5, 292 6, 150 8, 822	6, 129 5, 314	8,992	10,277	11,887	21,182	27,208	101, 093 124, 551
1922 Chicago 1920	10, 783 6, 646	1	1 1	6, 399	7,896			7,768	1	1	22, 232 10, 752	′	138, 212 57, 324
1921 1922 Philadelphia:	6, 343 5, 345	3, 328	2, 794	2, 104	2,421	2,369 2,524 3,597	2,097 3,590	2,615	3,804	4, 157	15, 723 13, 167	17,082	64, 992
1920 1921 1922	1,553 1,498 1,947		1,906 1,411 1,077	1,005	1,303	1,565	1,226	1,419	1,587	2,020	2,882	5,905	22, 892
Boston · 1920	3,934 3,377	1,749	1, 597	1,037	1,464	2, 221	1,858	1,696	2,096		· 1	7,895	, i
1922	4, 175				2, 551		2,091	2, 437 2, 198	2, 479	3,306		10, 444	
kets:		13, 874 13, 634		4, 138 9, 837	9, 922 10, 402	11, 168 12, 325	11, 385 10, 136	9, 998 15 463	12, 783 18, 150	16, 270 21, 645	36,662 47,259	56, 148 59, 986	214, 109 252, 356
	22, 250	14, 506	13, 320	11, 512	14, 373	16,606	13, 703	15, 433	17, 121	21, 434	45, 540	71, 957	277, 755

Table 432.—Poultry, dressed: Monthly and yearly receipts, in pounds, by States, 1922
[000 omtted.]
AT BOSTON.

State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Canada. Illinois. Chicago, Ill Indiana Iowa.	1,615 124 585 777	284	954 413 240 128	803 208 178 57	216	1,318 79 706 127	1, 029 3 374 147	785 58 398 217	791 55 416 345	(¹) 1,395 40 527 298	2,884 60 766 580	1,060	1.714
Kansas Kentucky Maine Maryland Massachusetts	155 21 36 2 7	99 1 24 2 5	62 6 24 75	58 3 24 25	128 46 11 	8 99	150 1 11 29	54 7 20 25 30	138 21 1 36	86 4 80 3 79	157 624 200 2 76	202 284 97 4 24	1,455 1,005 647 39 413
Michigan Minnesota Missouri Nebraska	58 67 85 77	56 81 9 22	19 31 21 16	43 16 13 10	37 21 53 27	45 24 39	30 58 51 12	66 42 10 16	97 74 28 124	125 92 6 77	165 136 141 59		1,015 1,076 774 471
New Hampshire New Jersey New York New York City, N. Y	1 40 52 108	2 78 8 112	1 67 58 135	3 6 92	25		(¹) (¹) 5	2 40 18	12 3 12	7 9 67	15 406 16	6 158 32	53 188 773 681
North Dakota Ohio Oklahoma Pennsylvania	119 104 3	1 118 75 3	(¹) 54 130	24 81 2	64 71 3		93 66	173 80 1	80 80	155 98 5	3 422 137 1	9 327 245 30	13 1,708 1,253 48
Tennessee Vermont. Wisconsin	(1) 1 46	10 10	(¹) 1	15 1 24	1	<u>2</u> 18	(¹) 25	43 109	6 102	6 139	46 79 124	2 50 86	65 200 680

¹ Less than 500 pounds.

POULTRY—Continued.

Table 432.—Poultry, dressed: Monthly and yearly receipts, in pounds, by States, 1922—Continued.

NEW YORK CITY.

State	Jan.	Feb.	Mar.	Apr.	Мау	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Arkansas	(1) 30 28 (1) 2,894	(1) 5	3 10 2,729	(1)	11 79 3 2 3,469	82 2 1	81 3 2 2,139	1 4 1 2,590	68 4 (1) 2,633	(1) 3	22 24 20 2 4, 913	96 110 27 7 8,279	129 649 109 15 40,911
Indiana	1,571 1,674 1,238 167 93	1,004 464 1,240 110 41	1,038 310 180 140 18	678 298 175 304 9	1,218 392 251 412 45	555 869 335	1,075 671 529 147 98	1,175 704 761 270 73	1,337 1,074 741 196 90	1,213 336	2,041 2,855 1,744 733 266	3,148 4,703 1,233 723 277	17,021 15,854 10,174 3,873 1,226
Massachusetts Michigan Minnesota Mississippl Missouri	11 122 318 642	38 77 101 1 183	85 95 43 	139 9 52 62	227 31 122 	63 93 401 713	21 95 132 530	114 69 167 1 385	29 120 146 1 792	310 (1)	71 500 815 1 2,207	29 428 1,805 2 3,571	848 1,901 4,412 6 10,522
Nebraska	260 276 198 1 (1)	218 139 297 1	123 52 558 (1)	120 24 402 (1)	133 25 355 (¹)	121 44 240 6	101 31 125 3	74 38 227 13 (1)	195 56 263 4	249 98 349 3	512 242 413 7 51	409 370 145 14 114	2,515 1,395 3,572 52 165
OhioOklahomaPennsylvaniaSouth Carolina	518 29 38	330 93 27 (¹)	202 132 129 (¹)	395 90 69	$\begin{array}{c} 302 \\ 2 \\ 60 \\ 2 \end{array}$	299 69 185 (1)	188 68 97 1	118 135 102 (1)	370 222 136 (1)	583 50 107 1	738 709 122 2	1,070 655 148 1	5,113 2,254 1,220 7
South Dakota Tennessee Texas Virginia	130 222 208 63	30 171 67 30	(1) 242 33 8	$^{(1)}_{\begin{subarray}{c}410\\76\\2\end{subarray}}$	381 98 25	(1) 288 145 147	51 272 44 183	22 304 24 249	43 297 214	117 191 222	266 413 1,596 347	773	
West Virginia Wisconsin	1 46	i i	1 56	(1) 2	(1) 7	23 8 11	26 8	118	(1) 56	286	523 1	21 374 183	54 1, 503 203
				PH	(LAD	ELPH	IA.						

Delaware Illinois Indiana Iowa Kansas	8 625 89 229 26	5 699 86 264 57	506 30	228 81	157 80	3 628 172 31 1	2 454 118 73 25	430 200	475 227 25	143 (1)	32 747 291 45 145	157 1,321 313 184 154	262 7, 165 1, 907 1, 017 660
Kentucky Maryland Michigan Minnesota Missouri	3	3 23 19 58 74	3 44	(1) 2		1	²	3 76	20	19 20 75 66	27 44 120 216	28 113 53 845 187	81 201 142 1 274 1,089
Nebraska New Jersey New York North Carolina		27 3 42	20 28 3 2	14 2 27 4	10 1 17 5	$^{(1)}_{24}$	$\begin{array}{c} 2\\77\\1\end{array}$	2		26 2 75	4 2 5 6	32 6 123 4	167 62 424 24
North Dakota Ohio Oklahoma Pennsylvania		102 20 93	24	23 29 62		35		42		25 100	112	59	1,153 321 1,372
South Dakota Tennessee Texas Virginia	3 1 21 130	1 2 132	10	21 128	3 131	135	136	120	(¹) 118	138	4 88 178	41 24 104 770	45 55 213 2,241
West Virginia Wisconsin Wyoming	32 91	36 44		20 1	24	28 	36	45 24		70 29	118 104		985 396 2

¹ Less than 500 pounds.

POULTRY-Continued.

Table 432.—Poultry, dressed: Monthly and yearly receipts, in pounds, by States, 1922—Continued.

CHICAGO.

State.	Jan	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Alabama Arkansas California Colorado Idaho	3 10 1		6 5	22 	7 31 11	5 29 11	35	2 19 24	5	(1) 18	3 14 6 20		
Illinois Indiana Iowa Kansas Kentucky	160	96 826 59	67 906 268	62 624 37	826 68 792 99 51	65 913 133	1,081 70 931 160 57	1,067 282	79	66 977 185	355 2.650	201 6,491 672	1,347 19,001 2,499
Michigan Minnesota Mississippi Missouri Montana	47 446 24 357		16	242 17	10 173 19 198 21	153 22	4	187 8	214 6	5	12	20 1,250	7,310 .169 3,952
Nebraska New York North Dakota Ohio Oklahoma	15 1 186 3 130	99	6	17	174 14 1 (1) (1)		317 15 1 3	36	27	130 27 6 (¹)	8	2, 129 31	3, 292
Pennsylvania. South Dakota. Tennessee. Texas. West Virginia.	237 30 93 5	50 3	135 58 1	51	22 54 34 20	3 146 25 47		119	61	98 60 (1)	637 35 219	68	694
Wisconsin Wyoming Canada		266	259	298 (1)	118	263	349	330	446	482	2,030	2,335 17 28	17

SAN FRANCISCO.

California Illinois Iowa	240 1	268	79 39 2 6	32	18 30		82	114 16	65	36 16	1,022	1,392	3,397 102 26
Kansas	149	79	32	55	30		24		24	25	24	54	496
Missouri Nebraska	152			•••••								52	152 52
Nevada Oklahoma	1	(1)	(1)	(1)							46	10	57 3
Oregon Washington	7 4 3	5 19		(¹)	26	(1)	1	23	4	30	158 21	22 27	280 149

¹ Less than 500 pounds

Table 433.—Cold-storage holdings of frozen poultry, in pounds, 1917 to 1922.

[000 omitted]

Year.	Jan.	Feb.	Mar.	Apı.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1917	32, 184 64, 557 108, 722 87, 512 79, 025	35,601 68,238 119,675 92,253 81,096	27, 796 56, 950 109, 627 78, 421 79, 001	25,988 44,115 92,897 61,436 62,315	67, 242 26, 523 71, 162 40, 525 47, 651	64,286 18,929 55,616 30,535 35,408	60,194 17,652 49,212 24,790 27,268	54,132 18,756 40,573 22,364 21,188	56,093 23,034 32,918 21,331 20,064	46,737 29,798 30,492 22,953 25,602	14, 133	71 238
Average	74,400	79,373	70,359	57,350	50,621	40,955	35,823	31, 403	30,688	31,116	39,052	57,952
1922	103,697	103,350	88,709	68, 471	50,840	38,602	34,837	30,659	27, 671	25,984	30, 238	51, 781

SHEEP.

Table 434 —Sheep: Number and value on farms in the United States, January 1, 1870-1923

[See head note to Table 370.] [000 omitted.]

Year.	Number.	Farm value Jan. 1.	Year.	Number.	Farm value Jan. 1.
1870, June I	28, 478	54, 062	1915.	49, 956	224, 687
1880, June I	35, 192	80, 757	1916.	48, 625	251, 594
1890, June I	35, 935	86, 447	1917.	47, 616	339, 529
1900, June I	61, 504	186, 271	1918.	48, 603	574, 575
1910, Apr. 15	52, 448	216, 030	1919.	48, 866	568, 265
1911	53, 633	209, 535	1920.	39, 025	408, 586
1912	52, 362	181, 170	1921.	37, 452	235, 855
1918	51, 482	202, 779	1922.	36, 327	174, 545
1914	49, 719	200, 045	1923.	1 37, 209	278, 939

¹ Preliminary estimate.

Table 435.—Sheep: Farm price per head, January 1, 1867-1923

Year.	Price. Jan. 1.	Year.	Price. Jan 1.	Year.	Price. Jan. 1	Year.	Price Jan. 1.
1867. 1868. 1869. 1870. 1871. 1872. 1872. 1873. 1874. 1875. 1876. 1877. 1878. 1879. 1880.	1. 82 1. 64 1. 90 2 14 2 61 2 71 2. 43 2. 55 2 37 2. 13 2. 21	1882. 1883. 1884. 1885. 1886. 1887. 1888. 1889. 1890. 1891. 1892. 1893. 1894. 1895.	2.53 2.37 2.14 1.91 2.01 2.05 2.13	1897. 1898. 1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. 1909. 1910.	\$1 82 2 46 2.75 3.03 2 98 2 65 2 63 2.59 2 82 3.54 3.84 3.43 4.12 3.91	1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922. 1123.	\$3 46 3.94 4 02 4 50 5 17 7.13 11.82 11 63 10.47 6.30 4.80 7.50

Table 436.—Sheep: Number and value on farms January 1, 1921-1923.

State.	Num	ber (thou Jan. 1—	ısands)	Averag	e price p Jan. 1—	er head	Farm of do	value (th ollars) Ja	ousands n. 1—
2,0,0	1921	1922	1923 1	1921	1922	1923	1921	1922	1923 1
Maine	100	95	90	\$5 50	\$4.80	\$6 70	550	456	603
	24	20	18	7.30	5.60	7.80	175	112	140
	58	48	43	6.70	5.00	7 00	389	240	301
	17	17	16	9.50	6.60	6 90	162	112	110
	3	3	3	9.90	6.30	7.90	30	19	24
Connecticut New York. New Jersey Pennsylvania Delaware.	10 550 10 478 3	9 512 10 468 3	532 10 477 3	9 50 7. 50 10 50 7. 60 7. 40	7. 50 5. 80 7. 40 5. 80 6 00	7. 80 8. 50 7. 50 7. 10 7. 40	95 4, 125 105 3, 633 22	2,970 74 2,714 18	62 4, 522 75 3, 387 22
Maryland Virginia West Virginia North Carolina South Carolina	93	89	93	8. 00	6. 20	7. 50	744	552	698
	335	322	338	7. 50	5. 60	7. 60	2,512	1,803	2, 569
	485	480	504	6. 40	4. 80	6. 90	3,104	2,304	3, 478
	89	84	81	6. 60	4. 90	5. 60	587	412	454
	23	23	23	3. 70	3 00	4 20	85	69	97
Georgia.	69	70	66	4, 20	2. 70	3. 00	290	189	198
Florida	63	64	63	3 50	3. 10	3. 50	220	198	220
Ohio	1,977	1,957	2,094	5 70	4. 60	7. 10	11, 269	9,002	14, 867
Indiana	606	606	648	6, 70	5. 20	8. 00	4, 060	3,151	5, 184
Illinois	561	516	516	6, 90	5. 30	7. 90	3, 871	2,735	4, 076
Michigan Wisconsin Minnesota Lowa Missouri	1, 161	1,115	1, 171	6 80	5. 20	8 00	7, 895	5,798	9,368
	432	367	341	6 40	4 60	7. 50	2, 765	1,688	2,558
	468	445	400	6.10	4. 70	7. 20	2, 855	2,092	2,880
	1, 005	775	829	6 90	5. 40	8. 40	6, 934	4,185	6,964
	1, 158	1,042	1, 105	6.00	4. 50	7. 10	6, 948	4,689	7,846
North Dakota	272	250	240	5. 70	4. 60	7.30	1,550	1,150	1,752
South Dakota	675	689	703	5. 60	4 50	7.70	3,780	3,100	5,413
Nebraska	521	596	733	6. 00	5. 20	8 10	3,126	3,099	5,937
Kansas	321	285	314	5. 90	4 80	7.30	1,894	1,368	2,292
Kentucky	651	631	675	6. 40	5. 00	7.00	4,166	3,155	4,725
Tennessee	349	340	340	5. 80	4. 00	5 50	2, 024	1,360	1,870
Alabama	79	83	90	4. 40	2. 70	3. 40	348	224	306
Mississippi	148	142	142	3. 40	3. 00	2. 60	503	426	369
Lousiana	124	124	122	3. 80	2. 80	2. 90	471	347	354
Texas	3,047	3,077	2,862	6. 10	3. 40	5. 20	18, 587	10,462	14,882
Oklahoma	91	91	87	6. 20	4. 30	5. 80	564	391	505
Arkansas	96	90	81	4. 20	2. 90	3. 10	403	261	251
Montana	1,973	2, 270	2,315	5. 80	4. 70	8. 70	11, 443	10,669	20, 140
Wyoming	2,350	2, 420	2,396	6. 30	5. 50	9 00	14, 805	13,310	21, 564
Colorado	2,306	2, 054	2,444	5. 30	4. 60	7. 60	12, 222	9,448	18, 574
New Mexico	2,468	2,343	2,062	5. 90	3. 90	6. 40	14, 561	9,138	13, 197
	1,200	1,100	1,155	7. 00	4. 90	6. 30	8, 400	5,390	7, 276
	2,200	2,250	2,340	6. 50	4. 90	8. 90	14, 300	11,025	20, 826
	1,100	1,190	1,119	7. 60	5. 30	8 90	8, 360	6,307	9, 959
Idaho	2,623	2, 492	2,642	6.30	6. 00	8 30	16, 525	14, 952	21, 929
Washington	555	500	520	6.90	5. 40	8 00	3, 830	2, 700	4, 160
Oregon	2,025	1, 860	1,953	6.70	4. 50	6 40	13, 568	8, 370	12, 499
Cahfornia	2,500	2, 310	2,402	6.80	5. 30	8 10	17, 000	12, 243	19, 456
United States	37, 452	36, 327	37, 209	6.30	4. 80	7 50	235, 855	174, 545	278, 939

I Preliminary estimate.

Table 437.—Sheep: Yearly losses per 1,000 from disease and exposure, 1890-1923.

Year	Losses from dis- ease.	Losses from expos- ure.	Year.	Losses from dis- ease.	Losses from expos- ure.	Year.	Losses from dis- ease.	Losses from expos- ure.	Year.	Losses from dis- ease.	Losses from expos- ure.
	Per	1,000.		Per	1,000.		Per	1,000		Per 1	,000
1890	24 0 23 0 19 0 24 0 20 0 26 0 27 0 23 0 26 0	51 0 17 0 14 0 20 0 15 0 29 0 21 0 32 0 27 0	1899 1900 1901 1902 1903 1904 1905 1906 1907	21 0 20 0 24 0 25 0 27.8 26.0 24 6 22 2 25 6	35 0 18 0 22 0 31 6 53 6 37 7 30 8 37 0 35 4	1908	22 5 26 6 27 5 25 5 26 7 24 8 21.9	22 9 28 3 43.9 23 0 47.0 25 0 22.0	1916 1917 1918 1919 1920 1921 1922 1923	21 6 21 8 19.8 19.7 23.7 23.1 21.4	21 7 32 4 19 3 24 4 34 6 15 5 26 4

Table 438.—Sheep: Farm price per 100 pounds, 15th of month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug	Sept.	Oct.	Nov.	Dec.
1910	\$5. 63	\$5. 09	\$5 64	\$6 10	\$5. 79	\$5 44	\$5. 47	\$4.68	\$4. 81	\$4 68	\$4.63	\$4. 54
	4. 47	4. 34	4. 45	4.55	4 51	4. 24	4 19	3.98	3. 91	3.68	3.65	3 71
	3. 89	4. 01	4. 12	4.57	4. 74	4 52	4. 21	4.26	4. 11	4.19	4.05	4. 21
	4. 35	4. 63	4. 97	5.16	4. 91	4. 84	4 20	4.32	4. 23	4 16	4.27	4 46
	4. 67	4. 67	4. 77	4 96	4. 87	4. 70	4. 75	4.87	4. 80	4.81	4.68	4. 95
1915	4. 95	5. 14	5. 36	5. 60	5 54	5. 43	5 35	5. 16	5. 06	5. 18	5 18	5 38
1916	5 52	5. 90	6. 35	6 61	6, 66	6. 54	6 33	6 22	6. 25	6. 20	6 41	6.77
1917	7. 33	8. 17	9. 21	9. 69	10, 15	9. 84	9.32	9. 33	10. 05	10. 24	10 20	10 44
1918	10. 55	10. 75	11. 41	11. 98	12, 32	11. 56	11.04	10. 99	10. 79	10. 35	10.11	9.46
1919	9. 68	9. 95	10. 45	11. 33	10. 93	10. 34	9. 25	9.06	8. 69	8. 46	8. 35	8. 53
1920	9. 34	9. 97	10. 25	10 66	10. 34	9. 13	8. 21	7 54	7. 24	6. 62	6. 20	5. 54
1921	5. 30	5. 01	5. 27	5. 11	5. 11	4. 74	4. 34	4 38	4 11	3. 96	3. 84	4. 10
1922	4. 57	5. 71	6. 51	6. 43	6. 65	6. 09	6. 11	5.98	5. 70	5. 93	6. 02	6. 27
Av. 1913-1922	6. 63	6. 99	7. 46	7. 75	7. 75	7.32	6.89	6.78	6. 69	6. 59	6. 53	6. 59

Table 439.—Lambs: Farm price per 100 pounds, 15th of month, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910	\$5. 82	\$6. 62	\$7. 37	\$7. 47	\$7. 26	\$7. 13	\$6.71	\$5. 70	\$5. 85	\$5. 78	\$5. 54	\$5. 60
	5. 71	5. 44	5 49	5 77	5 74	5. 51	5.42	5. 25	5. 02	4. 68	4. 68	4. 93
	5. 22	5. 15	5. 38	5. 98	6. 16	6 02	5.74	5. 60	5 49	5. 42	5. 37	5 70
	6. 03	6. 34	6. 56	6. 59	6 66	6. 36	6.05	5. 50	5. 51	5. 51	5. 64	5 85
	6. 16	6. 18	6. 31	6. 47	6. 49	6. 47	6.55	6. 26	6. 27	6. 09	6. 14	6 33
1915.	6. 47	6. 67	6. 06	7. 35	7. 32	7. 26	7. 21	6.70	6. 71	6. 70	6 76	7. 02
1916.	7. 29	7. 78	8. 10	8 58	8. 49	8 36	8. 16	8.15	8 22	8. 02	8. 41	8. 72
1917.	9. 59	10. 51	11. 46	12. 03	12. 51	12. 64	11. 19	12.08	13. 06	14. 09	13. 79	13 81
1918.	13. 83	13. 77	14. 11	15. 34	15. 39	14. 98	14. 20	14.20	13. 73	13. 20	12. 54	12. 44
1919	12.71	13. 17	14. 03	14. 61	14. 34	13. 89	13. 09	12. 91	12. 25	11. 47	11. 45	11 85
	12.91	14. 08	14. 17	14. 63	14. 26	12. 82	11 79	10. 84	10. 31	9. 65	9. 37	8. 46
	8.44	7. 76	7. 90	7. 55	7. 78	7. 59	7. 37	6. 99	6. 27	5. 98	6. 12	6. 60
	7.33	8. 87	10. 21	10. 54	10 39	9. 87	9. 55	9. 39	9. 43	10. 06	10. 30	10 49
Av. 1913-1922	9.08	9. 52	9.89	10.37	10. 36	10.02	9.52	9.30	9 18	9. 07	9. 05	9. 16

Table 440.—Sheep: Imports, exports, and prices, 1895-1922.

		Imports.			Exports.	
Year ending June 30—	Number	Value.	Average import price	Number.	Value	Average export price
895-1899 900-1904 905-1909 910 911 912 913 914 915 916 9917 9918 9919 9920	351, 602 303, 990 195, 983 126, 152 53, 455 23, 588 15, 428 223, 719 153, 317 235, 659 160, 422 177, 681 163, 283 199, 549 161, 292 96, 538	\$972, 444 1, 082, 047 886, 150 696, 879 377, 625 157, 257 90, 021 532, 404 533, 967 917, 502 856, 645 1, 979, 478 2, 279, 949 1, 541, 793 329, 592	\$2.77 3.56 4.52 5.52 7.06 6.67 5.83 2.38 3.48 3.89 5.34 11.14 11.72 11.43 9.56 5.49	296, 882 252, 138 143, 011 144, 517 121, 491 157, 263 187, 132 152, 600 47, 218 552, 278 58, 811 7, 959 16, 117 59, 155 80, 723 62, 354	\$1, \$61, 231 1, 525, 800 1, 539, 219 209, 000 636, 272 626, 985 605, 725 334, 543 182, 278 231, 535 367, 935 97, 288 187, 348 17, 1549 532, 510 294, 442	\$6.21 6.06 5 74 4.66 5.24 3.99 3.24 3.55 4.26 12.16 11.66 6.66 4.77

Table 441.—Live sheep: Monthly and yearly exports and imports, United States, 1909-1922.1

EXPORTS.

Year.	Jan	Feb	Mar.	Apı.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec	Total.
1909	6, 145	2,320	3, 508	3, 451	2,323	4,084	5, 584	4,603	8,372	6,818	3, 221	4,184	54, 613
1910 1911 1912 1913 1914	1,550 7,458 12,039 7,645 4,263	8, 504 12, 359 9, 437	15, 452 7, 829 5, 906	9,643 9,774	20, 537 6, 234 10, 152	12,899 12,678 13,037	12, 984 10, 786 16, 537	10,542 $25,601$	21, 312 24, 292 15, 795	15, 281 20, 090 27, 843	14, 524 18, 589 19, 050	21, 838 31, 823 28, 760	52,638 177,069 191,963 170,411 78,227
5-year average	6, 591	7,478	6,916	8,315	9, 177	10,962	11,094	11, 190	14, 520	16, 522	13,800	17, 297	133, 862
1915 1916 1917 1918 1919	206 541 1, 253 6 30	125 4, 981 703 48 12	1,130 1,500 309 6 153	11		1,831 88	570	108	334	423 889	266 75	5,008 400	55, 059 30, 359 7, 962
5-year average	407	1,174	620	2,776	4,658	1,835	4, 110	2,638	2, 515	6, 261	4, 165	2, 523	33,682
1920 1921 1922	4,059	13, 320 8, 486 1, 952		147 14, 749 2, 414	10,098	14, 958 23, 482 3, 207	15.744	246 16,605 1,582	8,737	2, 558 6, 244 575	3,031	2, 156	48, 878 117, 396 17, 172
					IMPO	RTS.							
1909	515	650	2, 133	1,080	1, 163	1,456	765	8,683	33, 002	32, 896	29,604	15,072	127, 019
1910 1911 1912 1913 1914	1, 014 89 33 95 15, 485	90 9 13	2,014 6 7 782 13,995	860 131 2	1,976 2,390 2,769	363 1,339	86 37	2,650 413	2,241 1.648	5,779 3,466	11, 559 8, 042 5, 077 46, 995 15, 375	881 792	56, 201 23, 063 15, 342 115, 688 199, 995
5-year average	3, 343	277	3,361	15, 116	2,789	1,003	1,374	5, 283	6,410	14, 072	17,410	11,620	82,058
1915 1916 1917 1918 1919	2, 530 8, 446 1, 423	42,880	3, 193 13, 200	5, 785 885 1, 899	2, 258 3, 512	6,462 1,524 6,887	4,731 1,439	8,625 6,980 4,691	48, 650 51, 421 20, 274	23, 755 38, 540 32, 105	13, 835 38, 436 36, 453	1,640 6,859 22,002	276, 521 125, 722 202, 861 150, 203 224, 774
5-year average	6,061	22, 402	5, 091	4, 422	4, 556	3, 490	4,052	11,805	33, 517	51,774	35, 885	12, 961	196, 016
1920 1921 1922	8,611 5,232 7,538	261	1.241	1, 763 1, 234 2, 375	416	1,863 1,864 1,064	856	15, 835 10, 075 12, 706	31 938	18.610	11. 437	1. 575	172, 905 84, 739
1 Compiled from re	norte e	f D	* 7	•		-			·				

Table 442.—Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1922.

SHEEP.

					,				,				
State.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Maine New Hampshire Vermont Massachusetts Rhode Island	\$5.10 4.40 3.70 7.20 4.20	\$5.30 5.00 3.90 8.00 5.20	\$6.20 6.00 4.50 9.00 7.00	8.00 5.30 7.00	6.50	7.00 4.70 6.30	\$5.70 6.80 4.50 5.30 6.00	\$6.50 5.80 4.40 6.00 6.00	6.00 4.10 6.50	\$7.10 5.80 5.00 6.00 5.60	5.60 4.80 6.50	5.60 4.60 6.00	6.04 4.54 6.90
Connecticut New York New Jersey Pennsylvania Delaware	8.50 3.90 9.70 5.00	8. 20 4. 40 10. 00 5. 70 5. 00	8, 50 5, 60 10, 00 6, 00 5, 50	5.80	6.00 5.20 13.00 6.00 6.00	6.00	4. 90 10. 00 5. 80 5. 00	4. 80 9. 50 5. 30 5. 00	5.40	5.10 9.00 6.50 6.00	9.00 6.00	10.00 6.10	10.18 5.80
Maryland	4.60 4.10 4.40 5.40 6.70	5.20	5. 60 4. 60 4. 90 5. 70 6. 00	5.50 5.70	5. 80 5. 40 5. 70 5. 90 6. 50		4.60 4.70 4.90 5.80 6.90	5.60	4.60 6.50	4.90 4.70 4.70 6.00 6.70	4.80 4.70 6.10	4.70 6.30	4.80 5.82
Georgia Florida Ohio Indiana Illinois	5. 10 5. 50 4. 00 3. 50 4. 30	5.40 5.70 5.20 4.70 4.90	4. 50 5. 50 5. 90 4. 80 5. 70	5. 70 5. 70 6. 00 5. 50 6. 50	5. 10 6. 00 5. 70 4. 90 5. 50	5. 20 4. 00 5. 10 4. 00 4. 80	6.00 4.50 4.90 4.20 5.00		4.10	4. 90 4. 50 5. 50 4. 40 5. 00	5.00 5.50 4.50	4.70 5.70	5.30 4.47
Michigan Wisconsin Minnesota Iowa Missouri	4.60 3.90 4.00 4.40 4.40	5. 20 4. 80 5. 80 6. 10 5. 50	6.30 5.60 5.80 7.10 5.90	6.00 6.10 6.00 7.10 6.60	6.30 5.90 5.60 6.80 5.90	5 30 4.90 5.10 5.80 5.60	5.40 4.80 5.20 6.00 5.10	5. 40 4. 40 4. 80 5. 20 4. 90	4.30 5.20	5. 90 5. 00 4. 90 5. 40 5. 30	4.50 4.90 5.10	4.40 5.00 6.00	4.92 5.12 5.85
North Dakota South Dakota Nebraska Kansas Kentucky	4.30 4.30 5.40 5.50 3.20	4.50 7.00 7.00 6.50 4.00	5 00 7.00 8.70 7.00 4.70	6 00 7 60 9.00 8.20 4.60	6.10 6.80 9.10 7.40 5.00	6.00 6.10 7.20 6.30 3.90	6.00 5.80 5.50 5.90 4.20	5.80 4.50 5.70 5.10 4.40	6.50 7.50 6.40	5.50 6.00 7.30 7.10 4.00	6.30 7.70 7.20	6.40 7.10 7.00	6.19 7.27 6.63
Tennessee Alabama Mississippi Louisiana Texas	3.70 5.20 4.70 4.70 4.20	4.00 5.80 4.20 3.30 5.40	4. 20 5. 10 3. 80 3. 10 5. 70	4.50 5.40 4.70 4.60 5.80	4.20	4.00 5.70 4.00 3.50 6.10		4.00 4.80	6.30 4.20 4.00	4.30 5.70 4.90 3.70 5.40	5.80 5.00 4.60	6.70 4.70 3.30	5. 85 4. 36 4. 09
Oklahoma Arkansas Montana Wyoming Colorado.	3. 70 3. 40 4. 50 5. 40 6. 70	6.60 3.40 5.50 6.00 7.50	4, 30 6, 40 7, 60 7, 40	4.60 7.10 7.90 7.40	4.70 7.70 9.00 7.20	4, 00 6 60 7, 00 6, 20	4.00 6.70 6.70 7.20	3.80 6.50 8.80 6.70	7.00	4. 10 6. 20 8. 20 6. 20	6 40 7, 50	7.40 7.00	7.34
New Mexico Anzona Utah Nevada	4.00 5.00 4.50 4.00	5. 50 5. 00 6. 80 6. 00	6.70 6.00 6.80 6.50	7.80 6.50 7.00 7.00	6.50 7.50 6.30 7.00	7.00 7.00 7.50 5.00	6.80 7.00 7.30 8.00	5.60	5.30	6.30 5.00 5.50 5.00	5.00 6.00	7.00	6. 42 6. 08 6. 30 5. 89
Idaho Washington Oregon California	5. 30 4. 50 5. 00 4. 50	5.80 5.30 6.50 5.50	6. 20 6. 00 9. 20 7. 20	7.00 6.10 7.20 7.60	6.50 7.00 7.50 6.90	6. 10 5. 90 6. 50 6. 30	5.80 6.20 6.00 6.40	6.00 4.80 6.00 7.00	6.50	5. 70 5. 80 7. 00 7. 00	6.90 7.20	5. 70 6. 50 8. 00 7. 20	5. 97 5. 90 6. 88 6 64
United States	4. 57	5. 71	6. 51	6. 43	6.65	6.09	6.11	5. 98	5.70	5. 93	6.02	6. 27	4 5. 96

División of Crop and Live Stock Estimates, Bureau of Argicultural Economics.
 In months' average.
 10 months' average.
 Weighted average.

Table 442.—Sheep and lambs: Monthly farm price per 100 pounds, by States, 15th of month, 1922 $^1\mathrm{--}\mathrm{Continued}.$

LAMBS.

					,		,		,	,	,		
State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Maine	\$9.10 8.60 7.70 10.50 8.00	8.90 8.60	9.50 9.00 14.00	13.30 9.50 11.00	12.50 9.20 10.60	11.80 9.40 14.00	10.80 9.40 10.20	10.50 8.90 10.70	11. 10 9. 20 10. 20	9.60 10.00	10.30 10.30	10 00 10.10 9.00	9 24 10 92
Connecticut New York New Jersey Pennsylvania Delaware	11.00 9.00 14.00 8.70		11.00 20.00 10.60	11.80 16.00 10 90	17.00 11.50	11.00 16.00 11.50	16.00 10.20	14.00 9.70	14.00 10.20	11. 20 13. 00 10 80	13.00 10.50	10.80	15 25
MarylandVırgıniaWest VirginiaNorth CarolinaSouth Carolina	8.70 7.90 7.00 6.80 8.00	9. 10 8 70 8. 50 7. 10 7. 50	9.80 9.70 7.50	11. 20 10. 00 7. 90	11.40	10. 90 9. 50 8. 90	10. 20 9. 10 8. 60	10.60 9.60 8.30 7.60 8.60	8 80 8.20	9.90 9.50 8.30	9. 90 9. 50 8. 20	11. 50 10. 00 9. 60 8. 40 9. 00	9. 94 9. 13 7. 98
Georgia	6.60 6.00 8.80 8.40 8.20	7. 10 6. 20 9. 90 9. 90 9. 70	6. 20 11. 00 10. 50	6.70 10.70 10.90		10.00 10.10	9.80 9.80			5. 20 10. 20	5. 50 10. 60 10. 20	10.60	10 18
Michigan Wisconsin Minnesota Iowa Missouri	9.50 8.10 7.70 8.40 8.00	10.50 9.80 9.50 10.80 9.80	11. 10 10. 40 12. 10	11.80 11.00 12.00	10.50 11.00	10. 40 10. 10 10. 30	10. 10 9 60 10. 50	9. 40 9. 80	9.80 9.50 10.30	10.70	10.50 10.50 11.40	11. 20 11. 80	10. 22 9. 96 10 76
North Dakota South Dakota Nebraska Kansas Kentucky	6.60 7.80 8.70 8.80 6.70	10.60	11.50 13.20 11.50	11.60 12.40 12.50	12.50 10.70	9 70 9.60 10.60	10.00 10.40 10.30	9. 90 9. 70 9. 20	9.90 11.10 10.40	10.00 11.00 10.30	10.30 11.00 11.30	11,00	10. 25 10. 93
Tennessee	6.00 7.80 5.50 6.00 5.00	5. 20	7. 10 6. 70 4. 70	7.80 7.60 7.60	8.60 6.10 7.80	9. 90	8.40 7.90 6.30	7.70 6.00 5.80	6. 50 5. 10	6.30 5.00	7.00 5.50	4 00	7. 91 3 6. 52 8 5 72
Oklahoma Arkansas Montana Wyoming Colorado	5. 60 5. 00 7. 40 7. 70 8. 00	9.00	6.60 9.00 11.00	9. 20 10. 30	9.70 10.30	9.70 10.00	9.60 10.00	9.70 9.80	10. 20 10. 30	10.70	10.70 10.70	10.90	9. 52 10. 06
New MexicoArizonaUtahNevada	5.50 7.00 7.00 6.00	8 30	10.00 9.80	11.00	12.00 10.50	11.00 11.00	10.50 10.00	10. 50 9. 70	10 50 10,00	11.00	11.00	11.00 11.50	10. 14 10. 07
Idaho	7. 10 6. 60 7. 00 7. 00	8.20 8.00	9. 50 10. 50	9.70	10.80 10.00	9. 20 9. 00	7.60 7.70	7. 20 8. 50	8.00	9.00	9.70 10.00		8.98
United States	7.33	8.87	10. 21	10.54	10.39	9.87	9. 55	9. 39	9. 43	10.06	10.30	10.49	9. 70

Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
 Five months' average.
 11 months' average.

 $\begin{array}{ll} \textbf{TABLE 443.--Sheep and lambs:} & \textit{Monthly and yearly average price per 100 pounds, Chicago,} \\ & 1910-1922.^1 \end{array}$

SHEEP, NATIVE AND WESTERN.

Year	Jan.	Feb.	Mar	Apr.	May	June	July	Aug	Sept.	Oct.	Nov.	Dec.	Aver- age.2
1910	\$5.55 4.10 4.30 5.35 5 50	4. 15 4. 15 5 90	4.70 5.30 6.40	4. 20 5. 90 6. 45	4. 45 6. 15	3.80 4.50 5.05	3. 95 4. 25 4. 50	3.50 4.05 4.35	3.80 4.15 4.30	\$3.95 3.65 4.00 4.55 5.30	3. 45 4. 05 4. 60	3. 55 4. 45 4. 95	3. 94 4. 60 5. 19
5-year average	4.96	5. 28	5. 99	6.08	5. 73	4.71	4.46	4. 33	4.36	4. 29	4. 29	4.45	4.91
1915	5 80 7 20 10.00 12.20 10 35	6. 45 7. 75 11 25 12 35 11. 35	8. 25 11. 70 13. 60	8. 15 12. 10 15. 65	7. 35 8. 20 13. 00 14. 75 12. 25	7. 35 10. 00 13. 40	7. 25 9. 10 12. 65	7. 35 9. 75 13. 15	7.80 11.15 11.80	7.50 11.65 10.45	8.00 11.25 9.85	9.00 11.50 9.40	7.82 11.04 12.44
5-year average	9. 11	9 83	11.01	11.62	11.11	9. 11	8.95	9. 25	8.96	8.75	8.65	9. 14	9.63
1920	11.80 5.07 7.26	13. 35 4. 90 8. 28			12, 25 6, 33 7, 35	4.46	5.08	4.53	4.49	6.45 4.71 6 25	4.40	4.92	5. 13

LAMBS, FAT NATIVE AND WESTERN &

1910 1911 1912 1913 1914	\$8.30 6.20 6.50 8.55 7.90	6.05 6.15 8.50	6.10 7.30 8.60	5. 50 7. 95 8. 40		6. 10 6. 90 6. 85		6.35 7.10 7.40	\$6.80 5.70 7.00 7.15 7.80	5.75 6.75	5.54	5.75 7.75 7.60	5. 93 7. 18 7. 69
5-year average	7. 49	7.39	7.81	7.71	7.61	7.08	7. 33	7.14	6.89	6.76	6.99	7.10	7. 28
1915	8. 40 10. 30 13. 85 17. 20 16. 25	10. 90 14. 30 16 60	11. 10 14. 25 17. 55	10. 45 14. 40	10.75 16.90 18.00	9. 55 15. 25 16. 85	10. 55 15. 65 18. 50	10.75 15.50 17.50	10.60 17.50 17.25	10.15 17.40 15 35	11 40 16.75 15.10	12.70 16.45 14.60	10.77 15.68 16.98
5-year average	13. 20	13. 59	14.30	14. 37	14. 40	12. 98	14. 11	13.88	13. 79	13.33	13. 31	13.83	13.76
1920	19. 50 10. 72 12. 67		9. 91	9.69	11.07	14. 25 10. 67 12. 42	10.09	9.46	13. 30 8. 86 13. 53		9. 25	10 86	

¹ Prior to 1921 figures compiled from Chicago Drovers Journal Year Book, subsequent figures from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

2 Simple average of monthly average prices.
2 Prior to November, 1920, figures compiled from Chicago Drovers Journal Year Book; subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics. cultural Economics.

Table 444.—Sheep: Monthly average price per 100 pounds, 1922. CHICAGO.

					OILIOIL	a 0.					
		Lambs.			Year-		Ew	es.	Breed-		
Months.	Me- dium to prime (841bs. down).	Me- dium to prime (85 lbs. up).	Culls and com- mon.	Spring lambs, medium to choice.	ling weth- ers, me- dium to choice.	Wethers, medium to prime.	Me- dium to choice.	Culls and com- mon.	ewes, full mouth to year- ling.	Feeder lambs, medium to choice	Feede ewes, me- dium and good.
January February March Aprıl	\$12.22 13.84 14.61 13.62	\$13.19	\$10.15 11.11 11.71 10.88		\$10.40 11.78 12.75 11.87	\$7.49 8.31 9.83 9.32	\$5. 98 6. 79 8, 17 8. 26	\$3.42 3.82 4.87 4.94		\$10, 86 12, 17 12, 62	
May June July August	12.45 11.90 12.88 12.38	12.20 10.87	9.31 8.46 9.67 9.96	\$14.67 13.65	10.18 9.58 10.10 9.83	7.99 6.57 7.49 7.44	6.32 4.96 6.01 5.55	3.44 2.31 3.12 2.98	\$7.97 8.61 8.26	11. 42 12. 20 12. 08	
September . October November December	13.33 13.50 13.79 14.29		10.58 10.53 10.92 11.16		10. 25 10. 62 11. 21 11. 20	7. 44 7. 54 8. 19 8. 00	5. 20 5. 53 6. 34 6. 40	2.74 3.26 3.96 3.85	7. 99 7. 86 7. 88	12, 85 13, 71 13, 18 13, 70	
Average	13.23		10.37		10.81	7.97	6. 29	3, 56	8.10	12, 48	
				EA	ST ST	LOUIS.					
January February March Aprıl	\$11.63 13.63 14.68 13.17		\$8.88 10.64 11.77 10.72	\$15.40	\$9, 27 10, 91 12, 11 11, 22	\$6. 19 7. 40 8. 46 8. 65	\$5. 22 6. 35 7. 63 7. 44	\$2.64 3.77 4.67 4.17			
May June July August	11.95 11.24 12.07 11.43		9. 25 7. 86 8. 40 8. 03	14. 20 13. 04	9.69 9.02 9.51 9.03	7.37 6.18 6.42 6.77	5. 84 4. 18 4. 47 4. 30	3.17 1.94 2.15 2.04	\$6.40 6.46 6.70		
September . October November December	11.98 12.44 13.09 14.04		8.45 8.62 9.61 11.27		9.06 9.62 10.32 11.07	6.88 7.06 7.67 7.82	4. 36 4. 60 5. 48 5. 63	2.06 2.34 3.04 3.00	6.30 6.31 6.90		
Average	12.61		9.46		10.07	7. 24	5. 46	2.92	6.51		
				K.	ANSAS	CITY					
January February March April	\$11.40 13.28 14.26 14.46		\$8.72 10.22 11.06 11.17		\$9.45 11.39 11.72 12.42	\$6. 26 7. 34 8. 57 8. 98	\$5. 41 6. 46 7. 70 8. 19	\$3.13 3.81 4.42 4.88		\$9.85 11.26 12.12 12.22	
May June July August	12.03 11.18 11.92 11.76		9.08 7.70 8.26 8.46	\$13.36 12.33	9.63 8.62 9.11 9.05	7. 47 5. 85 7. 11 7. 24	6. 25 4. 62 6. 12 5. 90	3.73 2.22 3.20 3.35	\$6.91 7.16 7.20		
September . October November	12.73 13.12 13.42		9.40 10.01 10.40 11.08		9.41 9.71 10.37 10.88	7. 05 7. 02 7. 34 7. 43	5. 46 5. 52 6. 15 6. 26	2.86 2.91 3.24 3.25	7. 08 7. 32	12. 23 12. 59 12. 56 13. 12	
December	14.02		11.00								

¹Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

Table 444.—Sheep: Monthly average price per 100 pounds, 1922—Continued.

OMAHA.

									,		
		Lambs.		Spring	Year- ling	Weth-	Ew	es.	Breed-	Daadaa	Decder
Months.	Me-dium to prime (84 lbs. down).	Me- dium to prime (85 lbs. up).	Culls and com- mon-	lambs, me- dium to choice.	weth- ers, me- dium to choice.	ers, me- dium to prime.	Me- dium to choice.	Culls and com- mon.	ewes, full mouth to year- ling.	Feeder lambs, medium to choice.	Feeder ewes, me- dium and good.
January February March	\$11.54 13.50 14.23 14.43	\$11.31 13.28 14.01 14.18	\$9.62 11.12 11.49 11.71	\$16.66	\$9.41 11.20 11.62 12.35	\$6.48 7.67 8.96 10.14	\$5.48 6.56 7.78 8.38	\$3. 23 3. 91 4. 71 5. 25		\$10. 24 12. 17 12. 77 12. 60	
May June July August	12.34 11.77 12.53 12.11	12.03 11.02	9.35 8.64 9.60 9.63	14. 24 13. 15	9.81 9.40 10.12 9.24	8. 12 6 62 7. 34 7. 17	6.30 4.49 5.56 5.33	3.60 2.18 2.96 2.89		11. 68 10. 50 10. 72 10. 91	
September . October November December	13. 04 12. 98 13. 21 13. 86		10. 55 10. 13 10. 56 11. 12		9. 62 9. 86 10. 68 10. 84	6. 98 6. 88 7. 43 7. 72	4.91 4.98 5.97 6.05	2.87 2.67 3.43 3.22	\$8.04 8 00	12. 34 12. 92 12. 38 13. 28	\$4.78 4.77
Average	12.96	12.64	10. 29		10.35	7.63	5.98	3.41		11.88	
				soui	H ST.	JOSEPE	[.1			7	
June July August September .	\$11.59 12.67 11.96 13.07	\$10.84	\$8.13 9.09 8.99 9.80	\$12.62	\$9.30 9.73 8.82 9.25	\$6.32 6.84 6.91 6.84	\$4.56 5.76 5.45 5.34	\$2.36 2.82 2.73 2.54			
October November December	13. 45 13. 57 13. 96		10. 29 10. 60 10. 92		9. 58 10. 09 10. 70	6.81 7.26 7 64	5.30 6.05 6.62	2.60 3.31 3.75			
Average	12.90		9, 69	ļ	9.64	6.95	5. 58	2.87			
				sou	TH ST	. PAUL	•				
January February March April	\$11. 10 12. 54 13. 82 12. 80		\$8.39 9.46 10.57 9.90		\$9. 47 10. 54 11. 68 11. 18	\$6.56 7.40 8.61 8.65	\$5.30 6.36 7.13 7.59	\$2.79 3.37 3.60 4.04			
MayJuneJulyAugust	11.61 11.02 11.91 11.51		8. 26 7. 74 8. 68 8. 57		9, 57 8, 73 9, 35 9, 08	7.39 5.76 6.50 6.37	5. 93 4. 24 5. 17 5. 02	3. 25 2. 84 3. 01 2. 77			
September . October November . December	12. 27 12. 65 12. 97 13. 58	\$12.11 12 19	9. 05 9. 12 9. 82 10. 60		9. 14 9. 72 10. 43 10. 78	6. 21 6. 66 7. 51 7. 53	4. 76 5. 05 5. 82 5. 93	2. 40 2. 61 3. 22 3. 33	\$6.79	\$11.38	\$4. 25
Average	12. 32		9. 18		9. 97	7.10	5. 69	3. 10			<u> </u>

¹ Did not report until June, 1922.

Table 445.—Sheep and lambs: Trend of average farm prices and average market prices. per 100 pounds, at Chicago, 1910-1922 1

	Averag	re farm	Average	market	P	rice relativ	es, 1913=10	00.
Year		ice.		Chicago.	Farm	price	Marke	t price
	Sheep.	Lambs.	Sheep.	Lambs.	Sheep	Lambs	Sheep. 101. 3 75. 9 88. 6 100. 0 107. 1	Lambs.
1910. 1911. 1912. 1913.	\$5. 08 4. 07 4. 20 4. 46 4. 79	\$6 40 5.30 5.60 6 05 6.31	\$5 26 3.94 4.60 5 19 5 56	\$7. 59 5. 93 7. 18 7. 69 7. 99	113. 9 91. 3 94. 2 100. 0 107. 4	105 8 87 6 92.6 100 0 104 3	75. 9 88. 6 100. 0	98. 7 77. 1 93. 4 100. 0 103. 9
1915 1916 1917	5. 23 6. 27 9. 54 10. 82	6 85 8.19 12.23 13.98	6. 36 7. 82 11. 04 12. 44	9. 05 10. 77 15. 68 16 98	117. 3 140. 6 213. 9 242. 6	113. 2 135. 4 202 1 231. 1	122. 5 150. 7 212. 7 239. 7	117. 7 140. 1 203. 9 220. 8
1919 1920 1921 1922	9. 35 8 11 4. 55 5. 96	12.98 11.94 7.20 9.70	10. 47 9. 49 5. 13 7. 15	16. 31 15 47 9. 86 13. 68	209. 6 181. 8 102. 0 133. 6	214. 5 197. 4 119. 0 160. 3	201. 7 182. 9 98. 8 137. 8	212. 1 201. 2 128. 2 177. 9

 $^{^1}$ Farm prices from Division of Crop and Live Stock Estimates, market prices from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics

Table 446 .- Sheep, lamb, and mutton: Monthly statement of the live-stock and meat situation, 1922.

(Numbers and quantities in thousands, i. e. 000 omitted.)

	Janu- ary.	Febru- ary.	March	Aprıl.	Мау.	June
Estimated number of sheep on farms in United States ¹ . Receipts of sheep at all public stockyards. Stocker and feeder shipments from public stockyards. Inspected slaughter, sheep and lambs ² . Average live weight ³ . Pounds. Average dressed weight ³ . do. Total dressed weight (carcass) ³ . do. Storage, 1st of month: ³ Fresh lamb and mutton do. Imports ⁴ Fresh lamb and mutton. do. Exports: ⁴⁵ Fresh lamb and mutton. do. Fresh lamb and mutton. Presh per 100 pounds:	1, 835 183 954 84	1,399 169 776 85 40 30,754 3,914 902 112	1, 465 143 837 85 40 33, 656 2, 863 941	1, 227 97 739 83 40 29, 299 2, 878 1, 280 91	1, 692 145 872 78 38 33, 226 2, 071 1, 497 304	1,700 191 1,028 72 35 36,427 2,310 1,737
Average cost in United States, all classes and grades, sheep and lamb Lambs, 84 pounds down, medium to prime (Chicago) Lamb carcasses, good grade (eastern markets) Sheep, medium to choice grade (Chicago) Mutton, good grade (eastern markets)	\$10. 72 \$12. 22 \$25. 58 \$6. 74 \$14. 63	\$12.34 \$13.84 \$26 37 \$7.55 \$15.94	\$13, 38 \$14, 61 \$27, 69 \$9, 00 \$19, 08	\$13. 44 \$13 62 \$29. 02 \$8. 79 \$19. 97	\$12. 98 \$12. 45 \$28 42 \$7. 16 \$19 93	\$11.35 \$11 90 \$24.19 \$5.76 \$14 87

Reports of Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics
 Reports of Bureau of Animal Industry.
 Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.
 Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
 Other figures in table from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.
 Including reexports.

Table 446.—Sheep, lamb, and mutton: Monthly statement of the live-stock and meat situation, 1922—Continued.

	July.	August.	Sep- tember	Octo- ber.	Novem- ber	Decem- ber.	Total, Janu- ary-De- cember.
Estimated number of sheep on farms in United States 1. Receipts of sheep at all public stockyards Stocker and feeder shipments from public stockyards. Inspected slaughter, sheep and lambs 2. Average live weight 3. Average dressed weight 4. Total dressed weight (carcass) 3. do	1,677 204 964 73 35	1,951 350 1,024 76 37	2,303 534 1,014 78 37	3, 311 1, 138 981 80 38	2, 288 757 882 83 40	1, 516 256 858 86 41	22, 364 4, 167 10, 929
Total dressed weight (carcass) 3	34,033 3,720 416	37,430 3,308 814	37,917 3,376 1,281	37,777 3,473 1,446	35, 156 3, 458 236	35,102 3,633	418, 292
Fresh lamb and mutton	204 \$11.58	169 \$ 12.37	102 \$11.55	326 \$12.14	81 \$ 12. 21	57 \$12.64	1,957
prime (Chicago). Lamb carcasses, good grade (eastern markets). Sheep, medium to choice (Chicago). Mutton, good grade (eastern markets).	\$12, 88 \$25, 29 \$6, 75 \$17, 22	\$12.38 \$24.99 \$6.50 \$15.43	\$13. 33 \$25. 98 \$6. 32 \$14. 76	\$13.50 \$24.66 \$6.54 \$14.58	\$13.79 \$24.59 \$7.26 \$14.31	\$14. 29 \$24 35 \$7. 20 \$14. 40	

Table 447.—Sheep: Yearly receipts and shipments at principal markets and all markets, 1900 to 1922.1

[000 omitted.] RECEIPTS.

Year.	Chi- cago.	Den- ver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all mar- kets.
1900 1901 1902 1903 1904	3,549 4,044 4,516 4,583 4,505	306 226 317 465 519	116 520 523 528 688	(3) (3) 10 125 104	860 980 1,154 1,152 1,004	1,277 1,315 1,743 1,864 1,754	390 526 561 599 794	490 332 602 876 773	61 67 61 42 28	7,349 8,010 9,487 10,234 10,169	(2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2) (2)
1905 1906 1907 1908 1909	4,737 4,805 4,218 4,352 4,441	738 826 828 675 632	645 579 565 679 776	125 98 113 120 188	1,319 1,617 1,582 1,641 1,645	1,971 2,165 2,039 2,106 2,167	981 827 764 592 621	818 735 568 359 496	57 64 65 59 78	11,391 11,716 10,742 10,583 11,044	(2) (2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2) (2)
1910 1911 1912 1913 1914	5,229 5,736 6,056 5,903 5,378	600 617 775 623 691	736 990 1,031 950 749	163 187 284 328 408	1,841 2,175 2,134 2,095 2,002	2,985 2,978 2,951 3,222 3,114	560 718 729 812 830	865 712 628 785 795	151 212 207 271 404	13, 130 14, 325 14, 795 14, 989 14, 371	(2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2) (2)
1915 1916 1917 1918	3,510 4,291 3,595 4,630	765 1,409 2,060 1,652	648 671 531 536	363 431 406 335	1,815 1,758 1,499 1,667	3,268 3,171 3,017 3,386	878 804 679 827	704 623 430 630	337 321 267 387	12, 288 13, 479 12, 484 14, 050	6,147 7,213 7,732 8,435	18, 435 20, 692 20, 216 22, 485
1919 1920 1921 1922	5,244 4,005 4,734 3,874	2,087 2,079 1,468 1,867	724 605 636 628	453 394 357 325	1,945 1,687 1,780 1,574	3,789 2,891 2,753 2,533	1,007 843 931 730	912 729 633 499	686 358 288 223	16,847 13,591 13,580 12,253	10,409 9,947 10,588 10,111	27, 256 23, 538 24, 168 22, 364

¹ Prior to 1915 receipts compiled from yearbooks of stockyard companies; subsequent figures compiled from date of the receipts compiled from the receipts of the Investigation of

¹ Reports of Division of Crop and Live Stock Estimates, Bureau of Agricultural Economics.
2 Reports of Bureau of Animal Industry.
3 Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.
Other figures in table from data of the reporting service of the Live Stock, Meats and Wool Division,
Bureau of Agricultural Economics
4 Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
5 Including reexports
6 Import figures not available for December, 1922

Table 447.—Sheep: Yearly receipts and shipments at principal markets and all markets. 1900 to 1922—Continued.

SHIPMENTS.1

Year.	Chi- cago.	Den- ver.	East St. Louis.	Fort Worth.	Kansas City.	Omaha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all mar- kets.
1900 1901 1902 1903	487 763 832 1,000 1,362	(2) (2) (2) (2) (2) (2)	62 75 72 77 101	(3) (3) (3) (3) (3)	(2) (2) (3) (2) (2) (2)	552 563 863 892 819	103 102 129 144 275	404 208 485 682 622	28 20 25 23 21	1,636 1,731 2,406 2,818 3,200	(2) (2) (2) (2) (2) (2)	(2) (2) (2) (2) (2) (2)
1905 1906 1907 1908	1,356 1,341 1,149 1,214 940	(2) (2) (2) (2) (2) (2)	90 108 91 119 114	(3) (3) (3) (3) (3)	(2) (2) (1) (2) (2) (2)	1,016 1,176 1,023 1,098 959	292 195 181 138 127	612 580 489 241 348	38 27 32 28 34	3,404 3,427 2,965 2,838 2,522	(2) (2) (2) (2) (2)	(2) (2) (2) (2) (2)
1910 1911 1912 1913	1,494 1,283 1,175 1,450 1,273	(2) (2) (2) (2) (2) (2)	77 108 97 70 44	63 57 111 101 127	(2) (2) (2) (2) (2) (2)	1,694 1,565 1,343 1,586 1,198	137 152 154 175 170	689 542 431 596 565	79 63 35 70 87	4,233 3,770 3,346 4,048 3,464	(2) (3) (2) (2) (2)	(2) (2) (2) (2) (2) (2)
1915 1916 1917 1918	258 829 836 1,205	653 1,291 1,958 1,484	72 86 69 68	163 259 248 175	611 556 583 744	1,369 1,301 1,638 1,953	264 181 207 248	536 485 319 463	123 114 97 178	4,049 5,102 5,955 6,518	2,701 4,091 5,055 5,686	6,750 9,193 11,010 12,204
1919 1920 1921 1922	1,309 1,202 1,352 1,273	1,822 1,864 1,288 1,693	125 140 245 223	276 204 207 244	783 623 485 558	2,150 1,474 1,124 1,094	301 228 200 154	676 416 298 176	408 160 98 69	7,850 6,311 5,297 5,484	6,735 6,252 6,036 6.193	14,585 12,563 11,333 11,677

¹ Prior to 1915 figures compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from 14th Annual Report of Bureau Annual Industry; 1907 to 1914 from Merchants Exchange Annual Report); subsequent figures from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau Agneultural Economics.

² Figures prior to 1915 not obtainable.

³ Figures not available prior to 1910.

Table 448.—Sheep: Monthly and yearly receipts at Chicago, Kansas City, Omaha, and East St. Louis, combined, 1910 to 1922.

[000 omitted.]

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	651 882 1,020 892 934	522 686 849 750 863	551 740 856 710 909	477 686 770 770 858	577 763 665 737 707	631 796 671 732 716	794 807 837 831 723	1,199 1,085 1,052 963 979	1,609 1,566 1,528 1,869 1,558	1,820 2,003 1,906 1,848 1,512	1,258 1,115 1,113 1,089 705	702 810 905 979 779	10,791 11,879 12,172 12,170 11,243
5-year average	864	734	753	712	690	709	798	1,056	1,626	1,818	1,056	835	11,651
1915	799 742 796 716 780	670 697 693 525 547	723 632 682 620 564	540 586 592 518 623	469 632 441 538 612		637 634 526 726 1,098	931 991 650 989 1,461	1,337 1,301 1,111 1,770 1,968	1,000 1,403 1,210 1,569 1,400	868 854 715 952 951	736 761 756 741 957	9, 241 9, 892 8, 642 10, 218 11, 703
5-year average	767	626	644	572	538	591	724	1,004	1,497	1,316	868	790	9,939
1920 1921 1922	666 813 753	619 700 602	580 819 640	462 754 517	532 729 ·659	632 725 690	827 645 695	1,189 1,100 826	1, 288 1, 173 835	946 1,095 1,072	817 686 726	631 664 594	9, 189 9, 903 8, 609

¹ Prior to 1915 compiled from year books of stockyard companies; subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

Table 449.—Sheep: Yearly receipts, local staughter, and stocker and feeder shipments at public stockyards, 1919–1922.

[000 omitted.]

					,							
Markets.		Rec	eıpts.		1	Local s	laught	er.	Stoc	ker and me	l feede nts.	r ship-
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Albany, N. Y	236 2 (2) 371	(2) 189 1 (2) 367	(2) 38 2 (2) 466	(2) 73 2 (2) 306	(2) 1 (2) 103	$\begin{pmatrix} (2) \\ 1 \\ (2) \\ 121 \end{pmatrix}$	(2) 1 (2) 186	1 (2) 144	116 (2) (2) (2) 2	86 (2)	23 (2) (2) (2) (2)	23 (2) (2) (2)
Billings, Mont Birmingham, Ala Boston, Mass Buffalo, N Y Chattanooga, Tenn	77 1 4 1,100 3	26 1 5 1,052 2	3 1 2 1,380 3	(2) 2 1, 191 4	(2) (2) 231 2	1 263 2	1 1 243 3	(2) 193 4	17 (2) 14 1	9 23 (2)	4	3
Cheyenne, Wyo Chicago, Ill Cincinnati, Olno Cleveland, Olno Columbia, S. C	442 5, 244 335 467 (²)	223 4,005 366 420 (2)	148 4,734 438 370 (2)	3,874 394 360 (2)	3, 935 84 176 (2)	2, 803 81 168 (2)	3,383 121 234 (²)	2,601 91 189 (2)	1,106 8 4	899 8 (2)	521 13 4	688 15 7
Columbus, Ohio Dallas, Tex Dayton, Ohio Denver, Colo Detroit, Mich	(2) 11 2,087 344	2,079 328	1 7 1,468 343	2 1 8 1,867 356	(2) (7) 241 212	(2) 1 6 239 216	1 1 5 180 168	1 5 172 196	1,290	1,319 20	643 14	1,088
Dublin, Ga East St. Louis, Ill El Paso, Tex Emeryville, Calif Erie, Pa	(2) 724 252 156 38	(2) 605 136 157 38	636 71 170	(2) 628 49 165	599 3 156 4	465 7 157 1	391 7 170	405 7 165	70 189	60 95	33 21	50 30
Evansville, Ind. Ft. Worth Tex Fostoria, Ohio Indianapolis, Ind. Jacksonville, Fla.	14 453 11 131 2	14 394 17 136 1	8 357 21 145 (²)	11 325 14 147 (2)	1 164 (2) 26 1	3 206 (2) 31 (2)	3 157 (2) 44 (2)	3 80 2 64 (2)	(2) 163 (2) 1	$\begin{pmatrix} (2) \\ 71 \\ 1 \\ 6 \\ 1 \end{pmatrix}$	(2) 80 1 10	(2) 136 (2) 9
Jersey City, N. J. Kansas City, Mo. Knoxville, Tenn Lafayette, Ind. Lancaster, Pa.	1,532 1,945 2 8 74	1,554 1,687 1 8 122	1,994 1,780 1 8 12	1,854 1,574 2 4 27	1,532 1,176 1 2 1	1,554 1,066 1 1 2	1,994 1,307 1 2 2	1,854 1,000 1 1	672 1 1	474 (2) 1	324 1	385 2 1
Logansport, Ind. Louisville, Ky Marion, Ohio Memphis, Tenn Milwaukee, Wis.	$273 \\ 32 \\ 1 \\ 65$	277 50 2 61	286 15 (2) 59	318 13 13 1 45	24 (2) (2) (2) 42	(2) 29 1 	(2) 26 (2) (2) (2) 47	(2) 27 (2) (2) (2) 34	$\begin{array}{c} (^2) \\ 31 \\ 2 \\ \cdots \\ 1 \end{array}$	20 1 1	(2) 25 1 (2)	(2) 34 2 (2)
Montgomery, Ala Moultrie, Ga Nashville, Tenn Nebraska City, Nebr New Brighton, Minn	7 147 1 276	129 1 166	2 1 138 (2) 293	152 290	1 15	18	(2) (2) 23	(2) 27	(2) 19 1 33	1 6 (2) 3	(2) 4 75	(2) 4 46
New Orleans, La. New York, N. Y North Salt Lake, Utah Ogden, Utah Oklahoma, Okla	291 388 516 19	6 158 481 603 15	221 368 576 18	4 143 459 704 18	291 17 24 8	3 158 15 17 5	3 221 67 14 12	2 143 20 8 12	277 171 6	211 133 3	1 142 196 2	276 281 3
Omaha, Nebr Pasco, Wash Peoria, III. Philadelphia, Pa Pittsburgh, Pa.	3,789 131 4 298 767	349	2,753 72 7 454 1,197	2,533 66 3 352 1,204	$1,639$ $(^2)$ 1 286 103	1,417 2 343 125	1,626 3 446 148	1, 440 1 345 117	1,787 131 1	1,124 67 1	670 4	757 1

¹Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

²Less than 500.

Table 449.—Sheep: Yearly receipts, local slaughter, and stocker and feeder shipments at public stockyards, 1919-1922.—Continued.

[000 omitted.]

Markets.		Receipts.				Local slaughter.				Stocker and feeder ship- ments.			
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922	
Portland, Oreg. Pueblo, Colo. Richmond, Va St. Joseph, Mo St. Paul, Minn	837	236 734 10 843 729	329 541 13 931 633	205 645 12 730 499	109 6 706 251	104 	151 10 730 316	95 9 576 319	27 1 2 200 201	40 1 1 142 113	13 (1) 1 107 78	7 3 1 113 66	
San Antonio, Tex. Seattle, Wash. Sioux City, Iowa. Sioux Falls, S Dak. Spokane, Wash.	102 686	70 91 358 5 127	49 91 288 2 73	66 70 223 2 63	1 101 282 (1) 13	90 199 2 16	91 191 1 26	69 153 (1) 11	272 28 35	33 90 1 75	5 64 (1) 12	38 45 (1) 22	
Tacoma, Wash Toledo, Ohio Washington, D. C. Wichita, Kans	33 54 20 59	44 69 27 39	55 23 35 32	39 20 21 82	37 4 20 6	37 2 27 5	55 3 34 6	40 3 20 13	(1) (1) 19	2 3 3	(1) (1) 2	(1) (1) 17	
Total	27,256	23,538	24,168	22,364	12,646	10,981	12,858	10,669	6,956	5,180	3,095	4, 167	

¹ Less than 500.

Table 450.—Sheep: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922.

[000 omitted]

			1	-			,		1			1	
	Jan	Feb.	Mar.	Apr.	Мау.	June.	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
Buffalo, N. Y.:				-						1			
Receipts	144	106	101	103	72	41	45	74	103	129	140	133	1, 191
Local slaughter	22	15	12	11	13	8	10	17	18	23	29	14	192
Stocker and feed-			l	l				l		ĺ			
er shipments				(2)	(2)			1	1	1	(2)		3
Chicago, III.:													
Receipts	362	290	300	239	303	303	297	339	322	469	355	295	3,874
Local slaughter	237	188	197	160	240	264	247	234	201	259	184	190	2,601
Stocker and feed-													
er shipments	21	24	17	6	23	32	39	85	98	166	133	44	688
Cincinnati, Ohio:	١.	_		١.									
Receipts	9	5 5	8 7	9 7	43	100	83	79	28	16	9	5	394
Local slaughter	7	9	7	7	11	8	8	13	8	9	5	3	91
 Stocker and feed- 	l			ļ		3		5		1	(0)		. 15
er shipments						3	4	5	2	1	(2)		15
Cleveland, Ohio:	33	20	17	23	19	17	18	30	7.4	45	48	36	360
Receipts	15	12	12	13	14	13	16	17	54 23	17	19	17	188
Local slaughter Stocker and feed-	19	12	12	19	14	13	10	17	23	17	19	11	100
er shipments	1	1				(2)	(2)	2	4		1	(2)	7
Denver, Colo:						(-)	(-)	4	*		-	(-)	'
Receipts	128	121	155	84	62	17	54	42	175	522	380	127	1,867
Local slaughter	13	16	21	15	12	6	8	10	15	25	17	14	172
Stocker and feed-	10			1			١	10	10	~0			
er shipments	44	42	21	7	3	7	36	12	74	381	364	97	1,088
East St. Louis, Ill.:				1	"		00		••	002	001	٠,	-,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Receipts	44	21	22	21	50	117	97	82	48	54	39	33	628
Local slaughter	22	13	16	15	33	67	67	61	31	31	25	24	405
Stocker and feed-													
er shipments	1	2	(2)	()	3	7	6	6	5	13	6	1	50
Fort Worth, Tex.:	i	l					1			l			
Receipts	38	43	45	14	21	18	21	24	31	38	24	8	325
Local slaughter	5	4	9	5	10	7	9	6	7	6	7	5	80
Stocker and feed-													
er shipments	24	36	30	5	1	4	4	4	5	15	6	2	136

 $^{^{1}}$ Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics. 2 Less than 500.

Table 450.—Sheep: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922—Continued.

	Jan.	Feb.	Mar.	Apr.	Мау.	June	July.	Aug.	Sepi	Oct	Nov.	Dec.	Total.
Indianapolis, Ind.:													
Receipts Local slaughter	10 5	5 3	6	4	6 4	15 7	21 8	28 9	20 10	15 6	11	6	146 64
Stocker and feed-				1	_	1	-				5	-	
er shipments Jersey City, N. J.:		(1)	(1)	••••	(1)	2	2	2	2	1	1	(1)	9
Receipts Local slaughter	141 141	128 128	107 107	102 102	116 116	187 187	188	222	180	209	147	127	1,854
Stocker and feed-	141	120	107	102	110	191	188	222	180	209	147	127	1,854
er shipments Kansas City, Mo.										••••			
Receipts	144	116	141	125	151	129	88	103	165	193	124	95	1,574
Local slaughter Stocker and feed-	88	74	94	90	103	90	65	70	90	88	70	78	1,000
er shipments	24	23	11	15	30	26	13	26	64	90	47	16	385
Oklahoma, Okla: Receipts		1	1	1	1	1	1	4	3	3	1	1	18
Local slaughter Stocker and feed-	(1)	1	1	1			1	1	1	4	ī	ī	12
er shipments	(1)				(1)	(1)		1	1	(1)		 .	3
Omaha, Nebr.: Receipts	203	175	177	132	155	141	212	302	300	356	208	172	2,533
Local slaughter	103	112	117	89	109	103	136	135	152	131	123	130	1,440
Stocker and feed- er shipments	14	12	23	17	15	32	63	126	157	188	87	23	757
Pittsburgh, Pa.: Receipts	107	67	75	92	104	143	149	147	123	87	61	49	
Local slaughter	9	8	7	92	104	10	119	12	123	11	9	8	1,204 117
Stocker and feed- er shipments													
St. Joseph, Mo.:		20		20									
Receipts Local slaughter	79 62	60 50	75 61	63 53	58 51	50 45	46 39	50 36	62 44	74 46	52 50	61 49	730 576
Stocker and feed- er shipments	10	3	5	4	4	4	6	13	15	26	13	10	113
St. Paul, Minn		_	-	_	_	_							
Receipts Local slaughter	60 32	25 19	17 11	7	6	9 8	21 17	52 40	66 43	105 48	88 50	43 39	499 -319
Stocker and feed-	-				•								
er shipments Sioux City, Iowa:	2	2	1	(1)	1		2	10	12	20	11	5	66
Receipts Local slaughter	29 22	23 18	16 14	11 7	9	5 4	5 4	10 9	22 17	40 15	34 22	19 15	223 153
Stocker and feed-					_	_	_					1	
er shipments	1	1	1	1	1	(1)	1	1	5	18	11	4	45

¹ Less than 500.

Table 451.—Mutton: Yearly exports and imports, by principal countries.

[000 omitted.]

EXPORTS.

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Exported by —											
Argentina . Australa ¹ . British South Africa . Canada . Denmark . France . Netherlands . New Zealand . Russia . Sweden . United States . Uruguay .	129, 569 67 50 348 284 15, 505	115, 372 130 35 422 319 21, 053 248, 569 310 78	58 263 399 15, 080 246, 363 423 113	193, 264 112 1, 056 209 247 19, 894	38, 344 323 83 810 232 25, 150 302, 218 3 125	1 188 365 229 4, 857 251, 245 2 5, 258	19, 175 2 844 132 4, 125 169, 644	59, 687 (2) 731 114 2 139, 575	246, 971 46 4, 939 282 134 5, 286 329, 693	54, 894 (2) 8, 660 828 994 7, 011 428, 000	6, 991 750 293 9, 303 375, 946

¹ Year beginning July 1, subsequent to 1913.

² Less than 500.

⁸ Tallow.

Table 451.—Mutton: Yearly exports and imports, by principal countries—Continued.
[000 omitted]

IMPORTS

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Imported by — British South Africa. Canada. Cuba. Denmark. France. Germany. Netherlands. Sweden. United Kingdom. United States.	2, 746 3, 409 23 4, 055 622 488 116 1, 331 611, 868	1, 194 716 69 1, 384	1, 593 5, 410 83 4, 357 975 1, 933 42 938 604, 132	4, 194 52 2, 913 6, 346 49 522 577, 339	20, 409 10 116 527, 517	29, 309 40 26 406, 814	2, 008 22 35, 172 2, 985 3 292, 922	13 37 237, 862	67 835 62, 134 1, 224 137 478, 174	7, 406 185 37, 426 4, 971 1, 116 1, 695	2, 095 22, 921 2, 717

¹ Less than 500.

Table 452.—Lamb and mutton: Monthly and yearly exports, United States, 1910-1922.¹

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910. 1911. 1912. 1913. 1914.	128 182 328 470 366	124 234 628 487 409	296 319 380 469 298	103 225 267 294 491	232 131 324 310 409	171 126 312 399 352	137 15 7 586 286 324	139 147 348 379 375	155 282 503 458 421	154 277 431 325 166	162 242 405 378 144	196 252 564 534 92	1, 997 2, 574 5, 076 4, 789 3, 847
5-year average	295	376	352	276	281	272	298	278	364	271	266	328	3, 657
1915 1916 1917 1918 1919	330 319 394 114 236	697 497 298 123 283	328 948 195 168 161	260 905 277 165 198	457 638 234 116 195	283 370 217 165 322	378 237 69 192 239	234 248 329 117 302	385 310 141 100 229	305 236 233 115 309	299 288 84 58 220	275 262 391 198 315	4, 231 5, 258 2, 862 1, 631 3, 009
5-year average	279	379	360	361	328	271	223	246	233	240	190	288	3, 398
1920	286 563 195	318 371 112	538 431 81	1, 960 89	862 996 303	1, 702 230	242 395 203	175 411 169	145 264 100	136 100 52	109 176 76	425 146 55	3, 575 7, 515 1, 665

¹ Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

Table 453.—Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921.

BY MARKETS-STRAIGHT SHIPMENTS.1

			Crippled.				Dead.	
Market.	Number of animals upon which figures are based.	Average weight of animals.	Percentage of total number shipped,	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	A verage weight of animals.
Buffalo Chicago East 8t. Louis Kansas City Sioux City	1,676 16,770 1,926 3,390 1,856	Pounds. 77 87 73 74 95	0. 24 . 20 . 11 . 06 . 27	0. 20 .06 .37	Pounds. 65 80 128	0.72 .51 .52 .35 .33	0.67	Pounds. 71
	В	Y MARK	ETS-MIX	KED SHI	PMENTS.	2		
Buffalo	22,826 3,124 856 19,305 2,782	78 84 72 72 99	0.30 .22 .12 .09 .07	0,13	80	0.73 1.09 .35 .16 .21	0, 21	91

¹ Straight shipments contain but one species of live stock

² Intercolonial trade excluded.

Table 453.—Sheep: Percentage crippled and percentage dead in shipments by cooperative associations, 1921—Continued.

BY DISTANCE-STRAIGHT SHIPMENTS.1

			Crippled.			Dead.		
Market.	Number of animals upon which figures are based	Average weight of animals.	Percent- age of total number shipped.	Percent age of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
Less than 100 miles 100–150 miles 150–200 miles 200–250 miles	3,210 7,702 6,255 4,551	Pounds. 75 83 87 85	0.03 .04 .16 .10	0. 04 . 04 . 18 . 07	Pounds. 100 77 97 52	0.18 .35 .30 .31		Pounds.
250–300 miles	860 1,266 2,898 2,190	70 84 88 81	.08 .41 .64	.05	60 79	. 46 . 23 . 72 . 39		
450–500 miles	648 1,186	82 80	.15	.24	130	2.36		
	В	Y DISTA	NCE-MI	KED SHI	PMENTS.	2]	l
Less than 100 miles 100-150 miles 150-200 miles 200-250 miles 250-300 miles 300-350 miles	11,174 10,788 1,890 10,973 1,297 5,223	69 74 86 88 75	0.01 .06 .16 .07 .08			.16 .19 1.34		1
350–400 miles	21, 424 2, 457 375	77 89 81	. 27 . 45 1. 07			1. 47 1. 87		
•	ву	MONTH	S-STRA	IGHT SH	IPMENT	3.1		
January	2,097 816 1,834 1,137	82 77 73 70	0.09			0. 19 1. 59 . 27 . 35		
MayJuneJulyAugust	2,446	76 75 74 87	.04 .53 .19			.17 .16 .16 .57		
September	4,200 4,123 4,287 1,899	83 86 87 88	. 09 . 07 . 09 . 58			.38 .34 .56 .85		
	İ	Y MONT	HS-MIX	ED SHIE	MENTS.2			
JanuaryFebruaryMarchApril	3,966	83 82 75 66	0. 21 . 47 . 15 . 24			0.87 .97 .45 .37		
May June July August	3.351	74 71 69 74	.11 .03 .07 .16			.08 .27 .15 .20		
September	7,289 10,548 9,291 5,029	75 67 79 79	.11 .13 .11 .18			.51 .60 .43 .60		

¹ Straight shipments contain but one species of live stock.

Table 454.—Sheep: Percentage of shrinkage 1 in shipments by cooperative associations. 1921.

BY DISTANCE

	Straigh me	it ship- nts 2	Mixed sh	1pments 3
Distance.	Number of ani- mals upon which figures are based	Shrink- age per- centage of weight shipped.	Number of ani- mals upon which figures are based	Shrink- age per- centage of weight shipped.
Less than 100 miles	2, 479	8.90	10, 881	7. 56
	6, 472	7.10	8, 373	6. 86
	5, 139	7.02	1, 676	5. 92
	1, 978	7.22	9, 904	8. 01
250-300 miles	860	8. 65	1, 297	9. 17
300-350 miles	1, 026	9 92	5, 204	7. 92
350-400 miles	2, 237	10. 40	18, 538	8. 56
400-450 miles	2, 073	8. 77	2, 288	8. 93
450-500 miles 500-550 miles 550-600 miles	648 1, 186	6. 87 8. 22	359	10.02
BY MONTHS.	!		!	,
January	1, 922	5. 20	4, 865	6. 18
February	567	5. 88	2, 250	6 55
March	1, 736	6. 95	3, 538	7. 42
April	1, 013	8. 55	5, 081	7. 84
May	1, 060	9, 20	3, 401	7. 74
June	1, 723	10, 13	2, 941	8 88
July	1, 873	8, 32	2, 510	9. 30
August	3, 285	8, 90	5, 863	10. 08
September		8. 11	6, 468	10. 01
October		7. 79	9, 168	8. 02
November		7. 93	8, 386	7. 08
December		7. 60	4, 049	5 56

¹ Shrinkage represents the difference between the shipping point weight and the terminal weight inleuding the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
² Straight shipments containing but one species of live stock
³ Mixed shipments containing more than one species of live stock.

WOOL.

Table 455.—Wool: Yearly estimated production, in pounds, by countries and grand divisions. 1

[000,000 omitted]

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921
Australasia South America North America United Kingdom Russia in Europe France	820	833	750	827	767	645	742	742	825	852	718
	500	555	531	455	477	480	470	470	484	487	592
	338	322	315	309	308	307	304	318	336	328	298
	143	143	133	125	121	121	121	125	118	99	100
	320	320	320	320	320	320	320	320	320	150	320
	78	78	78	80	75	75	65	65	50	50	40
Germany	26	26	26	26	26	26	26	26	26	37	43
Italy	22	21	22	22	22	22	22	22	22	35	79
All other in Europe	225	225	225	227	239	240	240	240	236	380	317
Asia	273	273	273	273	273	273	273	273	327	327	327
Africa	175	175	208	208	208	208	208	208	150	220	169
Total	2,920	2,971	2,881	2,872	2,836	2,717	2,791	2,809	2,894	2, 965	3,003

WOOL-Continued.

Table 456.—Wool: Estimated production, 1920-1922.

State.	Produc	etion (000 o	emitted)	Weig	ht per	fleece.	Num	ber of fleec omitted).	es (000
	1920	1921	1922 1	1920	1921	1922	1920	1921	19221
Maine. New Hampshire. Vermont. Massachusetts Rhode Island.	760	600	589	6. 4	6.0	6. 2	119	100	95
	182	161	128	6. 5	6.7	6. 4	28	24	20
	430	365	312	7. 2	6.3	6. 5	60	58	48
	95	102	102	6 5	6.0	6. 0	15	17	17
	14	18	19	6 1	5.9	6. 3	2	3	3
Connecticut	63 3,291 60 3,582 17	60 2,941 55 3,403 13	2, 882 55 3, 437 12	5.6 6.9 7.0 6.5 5.8	6.0 6.7 6.0 6.4 3.5	6. 0 6. 8 5. 8 6. 7 5. 8	11 477 9 551 3	10 439 9 532 4	9 424 9 513 2
Maryland Virginia West Virginia North Carolina South Carolina	562 1,596 2,500 420 101	440 1,541 2,300 395 97	1,607 2,346 395 102	6.0 4.6 5.0 4.2 4.5	6. 0 4. 6 4. 9 4. 2 3. 5	6. 4 4. 9 4. 9 4. 5 4. 0	94 347 500 100 22	73 335 469 94 28	70 328 479 88 26
Georgia	165	160	157	3. 2	2.8	2. 9	52	57	54
Florida	157	150	157	3. 2	3.1	3. 2	49	48	49
Ohio	14, 500	13, 200	13, 596	7. 4	7.2	7. 4	1, 959	1,833	1,837
Indiana	3, 654	3, 458	3, 527	7. 0	7.0	7. 0	522	494	504
Illinois	3, 974	3, 496	3, 426	7. 8	7.6	7. 5	509	460	457
Michigan Wisconsin Minnesota Iowa Missouri	8, 385	7,714	7, 868	7. 6	7. 2	7. 3	1,103	1,071	1,078
	3, 219	2,701	2, 446	7. 4	7. 0	7 3	435	386	335
	2, 660	2,340	2, 457	7. 1	7. 2	7. 2	375	325	341
	5, 966	5,369	5, 208	7. 7	7. 5	7. 9	775	716	659
	7, 552	5,202	5, 098	6. 8	6. 5	6. 6	1,111	800	772
North Dakota	1, 899	1,633	1,715	7. 5	7. 7	7 9	253	212	217
South Dakota	4, 804	4,324	4,021	7. 0	7. 2	7. 5	686	601	536
Nebraska	1, 886	1,641	1,395	8. 0	7. 4	8 0	236	222	174
Kansas	2, 087	1,878	1,690	7. 5	7. 0	7. 5	278	268	225
Kentucky	3, 000	2,600	2,678	5. 0	4. 7	5. 0	600	553	536
Tennessee	1, 462	1,320	1, 294	4.8	4. 5	4. 5	305	293	288
	292	189	185	4.0	3. 0	3. 5	73	63	53
	475	470	446	3.6	3. 5	3. 0	132	134	149
	600	508	525	3.9	3. 7	3. 7	154	137	142
	18, 200	18,000	19, 300	7.0	7. 7	7. 2	2,600	2,338	2,681
Oklahoma	477	482	458	7. 2	7.3	7.3	66	66	63
Arkansas	394	355	344	4. 5	4.3	4.5	88	83	76
Montana	16,000	16,400	15, 416	7. 9	8.3	8.0	2,025	1,976	1, 927
Wyoming	21,000	23,684	22, 500	8. 3	8.2	8.0	2,530	2,288	2, 812
Colorado	6,888	6,839	6, 976	6. 7	7.0	6.5	1,028	977	1, 073
New Mexico	10,600	10, 100	9,600	6.3	6. 4	6. 0	1,683	1,578	1,600
	4,800	5, 616	6,000	6 5	6. 0	6. 5	738	936	923
	16,150	16, 500	15,984	7.8	8. 0	7. 4	2,071	2,062	2,160
	7,500	7, 000	6,580	7.3	7. 3	6. 5	1,027	959	1,012
Idaho	18,650	16,800	15,000	8. 1	8. 0	7.8	2,302	2,100	1, 923
	5,201	4,421	4,112	8. 7	8. 8	7.7	598	502	534
	14,435	14,435	12,992	8 4	8. 6	7.5	1,718	1,678	1, 732
	14,300	14,070	13,455	7. 6	7. 5	6.9	1,882	1,876	1, 950
United States	235, 005	225, 546	219, 095	7 3	7.4	7.1	32, 301	30, 287	31,003

¹ Preliminary estimate.

WOOL-Continued.

Table 457.— Wool (unwashed): Farm price, cents per pound, 15th of month, 1910-1922.

Year	Jan	Feb.	Mar	Apr.	Мау.	June	July	Aug.	Sept.	Oct.	Nov	Dec.
1910	24. 5	24. 6	24. 9	22. 3	22. 8	19. 5	19. 0	19. 5	17. 7	18. 1	17. 9	17.8
	17 3	17. 3	16. 8	15. 7	14. 7	15. 5	15. 4	16. 0	15 6	15. 5	15. 6	15.5
	16. 2	16. 3	16 9	17. 3	17 8	18. 7	18. 9	18 8	18. 7	18. 5	18. 6	18.6
	18. 6	18. 7	18. 4	17. 7	16. 3	15. 6	15. 9	15. 8	15. 8	15. 5	15. 6	16.1
1914	15. 7	15. 7	16. 4	16. 8	17. 2	18. 4	18. 5	18 7	18 6	18 0	18. 1	18.6
	18. 6	20. 2	22 8	22. 7	22. 0	23. 7	24. 2	23.8	23. 3	22 7	22. 7	23.3
	23. 3	24. 2	25 9	26. 3	28 0	28. 7	28. 6	29.0	28. 4	28 7	29 4	30.8
	31. 8	32. 7	36. 7	38 8	43. 7	49. 8	54. 3	54.8	54 2	55 5	55. 9	58.2
1918	58. 1	57. 1	60. 0	60 0	58. 2	57. 4	57. 5	57. 4	57, 7	57. 7	56. 4	56. 2
1919	55. 2	51. 1	51. 3	47. 9	48. 0	50. 5	51. 8	52. 2	51, 3	50. 6	51. 0	51. 6
1920	53. 3	52. 5	51. 5	51. 3	50. 3	38. 6	29. 5	28. 3	28, 0	27. 5	24. 9	21. 9
1921	19. 6	19. 8	18. 9	17 9	16. 0	15. 4	15. 5	15. 4	15, 5	15 8	15. 6	16. 9
1922	18. 0	22. 3	25 0	24. 8	29. 0	32. 8	32. 5	31. 6	31 6	32 2	33. 2	35 3
Av , 1913-1922.	31. 2	31.4	32.7	32. 4	32.9	33. 1	32, 8	32.7	32. 4	32.4	32 3	32, 9

Table 458.—Wool: Monthly and yearly average price per pound, Boston market, 1910 to 1922.

OHIO, PENNSYLVANIA, AND WEST VIRGINIA-FINE CLOTHING, UNWASHED.

Year.	Jan	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Yearly aver- age.
1910	\$0. 28 . 23 . 22 . 24 . 21	\$0. 28 . 22 . 22 . 24 . 21	\$0, 27 . 21 . 22 . 23 . 22	\$0. 25 . 20 . 22 . 22 . 22	\$0. 24 . 19 . 22 . 21 . 23	\$0. 22 . 19 . 22 . 21 . 24	\$0. 22 . 20 . 24 . 21 . 25	\$0. 21 . 20 . 24 . 21 . 25	\$0. 21 . 21 . 24 . 21 . 25	\$0. 23 . 21 . 24 . 21 . 24	\$0. 23 · 21 · 24 · 21 · 24	\$0. 23 . 22 . 24 . 21 . 24	\$0. 24 . 21 . 23 . 22 . 23
Average	. 24	23	. 23	. 22	. 22	. 22	. 22	. 22	. 22	. 23	. 23	. 23	. 23
1915. 1916. 1917. 1918.	. 25 . 28 . 39 . 65 . 57	. 29 . 28 . 42 . 65 . 56	. 29 . 29 . 45 . 65 . 54	.26 .31 .44 .67 .53	. 26 . 31 . 47 . 64 . 53	. 26 . 31 . 55 . 62 . 58	.27 .31 .58 .67 .68	.27 .31 .63 .64 .70	.27 .31 .66 .62 .70	.27 .33 .63 .67 .67	.27 .34 .65 .64 .68	.27 .37 .65 .62 .70	. 27 31 . 54 . 64 . 62
Average	. 43	. 44	, 44	.44	. 44	. 46	. 50	.51	. 51	.51	. 52	.52	. 48
1920 ²	.70 .31 .34	.75 .31 .38	.76 .32 .38	.70 .32 .38	.45 .31 .40	.60 .30 .46	.57 .28 .47	.54 .28 .47	. 54 . 28 . 47	.42 .28 .49	.38 .29 .50	.38 .31 .50	. 58 . 30 . 44

TERRITORY-FINE STAPLE, SCOURED.

1910	\$0.74	\$0.73	\$0.71	\$0.68	\$0.63	\$0.61	\$0.61	\$0.62	\$0.62	\$0.63	\$0.63	\$0.63	\$0.65
1911	61	.59	.54	.53	.52	.52	.55	.56	.59	.60	.61	.61	.57
1912	.61	.61	.61	.61	.61	.61	.63	.68	.68	.68	.67	.67	.64
1913	.66	.64	.59	.56	.55	.54	.54	.54	.54	.53	.53	.52	.56
1914	.52	.56	.57	.59	.60	.61	.61	.63	.61	.59	.61	.61	.59
Average	.63	. 63	.60	. 59	. 58	. 58	.59	.61	.61	.61	.61	.61	.60
1915	.63	.73	.73	.71	.69	.71	.71	.71	.71	.71	.71	.73	.71
1916	.74	.77	.77	.79	.79	.81	.82	.85	.89	.89	.97	1.05	.84
1917	1.13	1.23	1.28	1 33	1.38	1.74	1.74	1.78	1.81	1.80	1.80	1.80	1.57
1918	1.80	1.80	1.83	1.85	1.80	1.80	1.85	1.80	1.80	1.85	1.80	1.80	1.82
1919	1.60	1.52	1.58	1.65	1.65	1.75	1.85	1.85	1.85	2.00	2.00	2.00	1.78
Average	1.18	1. 21	1. 24	1. 27	1.26	1.36	1.39	1.40	1.41	1.45	1.46	1. 48	1. 34
1920 ²	2.00	2.05	2.05	2.00	2.00	1.75	1.60	1.45	1.30	1. 20	. 95	.90	1.60
	.84	.90	.89	.88	86	.82	.82	.82	.82	.82	. 84	.88	.85
	.97	1.10	1.10	1.09	1.27	1.34	1.35	1.31	1.30	1. 34	1. 39	1.40	1.25

^{1 1910-1920} data from National Association of Wool Manufacturers. 1921-1922 data from Boston Commercial Bulletin.

WOOL-Continued.

Table 459.—Wool: Quarterly average price per pound on farms, by leading districts, 1910-1922.

Year and month.	Ohio, Penn- syl- vania, and West Vir- ginia.	Michigan, Wis- consin, and New York.	Ken- tucky and In- diana	Mis- souri, Iowa, and II- linois.	Texas.	Cali- fornia.	Mon- tana, Wyo- ming, Utah, Idaho, Oregon, Nevada, and Arizona.	New Mexico.	Florida, Ala- bama, Missis- sippi, Louisi- ana, anp Georgia.
Average 1910-1914: January April July October	\$0.23 .22 .22 .22	\$0.21 .20 .21 .21	\$0. 22 . 21 . 21 . 20	\$0.20 .19 .19 .19	\$0. 16 . 16 . 16 . 15	\$0.14 .14 .15 .13	\$0. 17 . 16 . 16 . 16	\$0.15 .15 .14 .14	\$0.21 .19 .19 .18
Average 1915–1919: January April July October	. 44	. 42	. 42	. 39	.31	.32	.38	. 29	.31
	. 47	. 45	. 45	. 42	.34	.36	.39	. 35	.34
	. 51	. 49	. 48	. 46	.37	.39	.41	. 37	.38
	. 52	. 50	. 48	. 45	.37	.36	.41	. 37	.38
1920: January April July October	.63	. 58	.54	. 52	46	.45	. 50	. 45	. 48
	.58	. 50	48	. 44	45	.44	. 44	. 44	. 41
	.33	. 30	.34	. 28	.30	.28	. 28	. 25	. 25
	.28	. 26	.27	. 22	.24	.23	. 26	. 22	. 19
1921: JanuaryAprilJulyOctober	. 27	. 23	.22	. 18	. 20	.13	. 19	.15	.17
	. 22	. 19	.17	. 17	. 15	.10	. 16	.14	.16
	. 19	. 18	.16	. 15	. 14	.12	. 16	.12	.13
	. 20	. 18	.17	. 15	. 14	.13	. 16	.14	.14
January	.25	.23	. 19	. 19	. 17	.23	.24	. 18	.14
	.33	.29	. 27	. 25	. 26	.31	.31	. 26	.18
	.38	.33	. 31	. 30	. 33	.35	.31	. 30	.24
	.38	.35	. 32	. 32	. 34	.31	.34	. 32	.23

Table 460.—Stocks of wool, tops, and noils held by dealers and manufacturers in United States, 1918–1922.

[000 omitted.]

	[000 000001]											
:		Held by manufacturers.										
Date.	Grease.	Scoured.	Pulled.	Tops.	Noils.	Grease.	Scoured.	Pulled.	Tops.	Noils.		
1918. Jan. 1 Apr. 1 July 1 Oct. 1	156,639	27, 849	12,229	4,642	7,565	172,342	29, 912	9,627	18,677	13,567		
	91,209	22, 887	14,444	3,555	6,054	131,606	23, 672	13,401	16,117	11,387		
	202,241	11, 721	10,478	2,074	3,848	136,267	19, 601	9,433	14,251	13,064		
	219,659	12, 926	10,701	347	3,655	101,900	16, 236	8,449	12,288	12,467		
Jan. 1	81,923	12,347	10,215	1,422	5, 104	58,602	13,816	5, 233	10,395	12,385		
Apr. 1	28,690	7,952	5,984	898	2, 823	72,637	13,654	6, 663	10,962	10,381		
July 1	198,298	22,155	10,108	1,801	2, 577	147,678	16,117	11, 740	11,388	9,820		
Oct. 1	207,264	27,921	14,497	3,446	3, 184	181,301	17,705	7, 829	15,286	9,822		
1920. Jan. 1 Apr. 1 July 1 Oct. 1	152,003	24,630	17,907	4,735	3,893	148,239	20,030	10, 152	13,875	7,316		
	123,247	26,279	17,710	3,646	4,305	135,645	28,100	9, 339	14,328	8,670		
	141,837	27,963	15,207	4,487	6,041	112,434	23,078	6, 762	15,439	9,002		
	179,376	29,988	11,229	5,564	4,754	75,288	15,612	12, 067	15,839	9,124		
1921. Jan. 1. Apr. 1. July 1. Oct. 1.	188,822	27,814	14,352	6,616	5,434	119,766	17,291	6,895	18,851	9,991		
	194,891	22,807	15,505	7,623	3,690	159,599	18,442	17,095	19,325	9,316		
	176,584	19,703	12,127	4,883	4,139	164,713	18,042	10,787	20,247	8,101		
	181,574	19,480	11,201	4,005	3,009	180,727	19,736	10,484	23,184	7,463		
Jan. 1	101,384	13,468	10,222	2,866	2,453	171,597	21,097	9,312	17,536	7,136		
	70,415	10,995	6,969	2,296	1,373	171,026	25,406	10,419	18,029	7,176		
	156,523	13,447	6,988	2,627	1,619	165,810	22,201	9,642	20,720	6,709		
	176,377	16,521	7,384	3,327	2,695	191,351	20,336	8,686	19,227	5,904		

WOOL-Continued

Table 461.—Wool: International trade, calendar years 1909-1921.

"Wool' in this table includes: Washed, unwashed, scoured, and pulled wool, slipe, sheep's wool on skins (total weight of wool and skins taken); and all other animal fibers included in United States classification of wool. The following items have been considered as not within this classification. Corded, combed, and dyed wool, flocks, goatskins with hair on, mill waste, noils, and tops. See "General note," Table 363.

	Average,	1909–1913.	19	19	19	20	19	21
Country.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
PRINCIPAL EXPORTING COUNTRIES. Algeria	1,247 1,247 168 12,753 13	1,000 pounds, 19,871 328,204 676,679 56,496 164,651 28,223 42,684 194,801 10,023 9,333 28,505 139,178	1,000 pounds 2,787 54 43 27,344 889 128 5 431 24 6,739	1,000 pounds. 17, 269 339, 208 680, 769 36, 104 202, 039 27, 500 56, 705 274, 247 1, 558 11, 329 19, 095 141, 330	1,000 pounds 2,456 324 22,766 183 675 37 363 35 4,488	1,000 pounds 14,598 195,376 511,653 28,956 191,248 30,392 20,147 162,327 3,647 7,450 14,846 69,393	17, 904 43 188	1,000 pounds. 19, 141 316, 484 24, 134 247, 608 26, 902 68, 205 149, 860
Austria-Hungary Belgium Canada France Germany Japan Netherlands Russia Sweden Switzerland United Kingdom United States Other countries	601, 628 481, 988 10, 223 31, 991 106, 184 7, 267 11, 211	9,622 196,440 1,323 84,973 42,817 28,362 32,406 149 338 42,027 8 46 55,754	102, 764 8, 035 351, 803 52, 232 16, 303 15, 371 10, 249 985, 510 445, 893 82, 974		2 3, 963 272, 206 12, 268 363, 545 122, 779 71, 541 14, 256 8, 756 10, 317 720, 457 259, 618 86, 902	2 889 154, 314 6, 289 33, 696 1, 230 5, 702 96 231 22, 536 8, 815 12, 589	2 15, 362 197, 814 9, 204 310, 922 30, 531 14, 712 9, 813 12, 193 466, 668 320, 666 53, 234	2 2, 432 141, 293 3, 310 33, 422 3, 760 54 36, 569 1, 927 15, 973
Total	2, 458, 820	2, 190, 905	2, 109, 578	1, 900, 258	1,977,875	1, 496, 453	1, 463, 457	1,096,331

¹ Three-year average.

² Austria only.

⁸ One year only.

SWINE.

Table 462.—Swine: Number and value on farms in the United States, January 1, 1870-1923.

[See headnote to Table 370.]

[000 omitted.]

Year.	Number.	Farm value, Jan. 1.	Year.	Number.	Farm value, Jan 1.
1870, June 1 1880, June 1 1890, June 1 1900, June 1 1910, Apr. 15 1911 1912 1913 1914	17,682 57,410 62,868 58,186 65,620	\$140, 532 211, 036 281, 686 346, 014 533, 309 615, 170 523, 328 603, 109 612, 951	1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922. 1923 1.	67, 766 67, 503 70, 978 74, 584	\$637, 479 569, 573 792, 898 1, 387, 261 1, 642, 598 1, 131, 674 727, 380 582, 448 726, 699

¹ Preliminary estimate.

Table 463.—Swine: Farm price per head January 1, 1867-1923.

Year.	Price, Jan. 1.	Year.	Price, Jan. 1.	Year.	Price, Jan. 1.	Year.	Price, Jan. 1
1867. 1868. 1869. 1870. 1871. 1872. 1872. 1874. 1875. 1876. 1877. 1877. 1878. 1879. 1880.	3. 29 4. 65 5. 59 5. 61 4. 01 3. 67 3. 98 4. 80 6. 00 5. 66 4. 85 3. 18	1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1894 1896	6.75 5.57 5.02 4.26 4.48 4.98 5.79	1897 1898. 1899. 1900. 1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. 1909. 1910.		1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1922 1923	\$8. 00 9. 86 10. 40 9. 87 8. 40 11. 75 19. 54 22. 02 19. 07 12. 97

Table 464.—Swine: Number and value on farms January 1, 1921-1923, by States

States.	Numl	oer (thous Jan. 1—	sands)	Averag	ge price p Jan. 1—		Farm va dol	lue (thou lars) Jan	sands of 1—
77040005	1921	1922	1923 ¹	1921	1922	1923	1921	1922	19231
Maine New Hampshire Vermont Massachusetts Rhode Island	73	69	68	\$21.00	\$14 70	\$18.30	1,533	1,014	1,244
	33	30	28	20.00	15.00	17.00	660	450	476
	63	53	59	14.80	12.40	14.00	932	657	826
	83	76	72	20.50	16.30	17.00	1,702	1,239	1,224
	12	12	12	21.00	17.50	18.10	252	210	217
Connecticut New York New Jersey Pennsylvania Delaware	55	47	45	20. 00	17. 00	17. 70	1,100	799	796
	559	520	546	17. 50	14 50	15. 50	9,782	7,540	8,463
	126	132	132	20 00	17. 00	17 50	2,520	2,244	2,310
	1,143	1,143	1,200	17. 50	14. 50	16. 00	20,002	16,574	19,200
	37	41	43	16. 00	10. 00	11. 00	592	410	473
Maryland Virginia West Virginia North Carolina South Carolina	291	285	299	13 00	11.50	13. 00	3,783	3, 278	3,887
	847	754	792	11.50	9.60	10. 50	9,740	7, 238	8,316
	293	293	316	14.00	10.80	12. 30	4,102	3, 164	3,887
	1, 246	1,258	1,271	15.70	12.00	13. 30	19,562	15, 096	16,904
	853	938	947	13.50	9.20	11. 00	11,516	8, 630	10,417
Georgia.	2,030	2,131	2,152	11.50	8.60	7.80	23,345	18,327	16,786
Florida	740	725	703	10.00	7.00	7 50	7,400	5,075	5,272
Ohio	2,806	2,862	3,091	13.30	10.90	12.10	37,320	31,196	37,401
Indiana	3,532	3,567	4,102	13.00	11.00	11.90	45,916	39,237	48,814
Illinois	4,129	4,046	4,693	13.70	10.50	12 50	56,567	42,483	58,662
Michigan Wisconsin Minnesota Lowa Missouri	1,084	1,051	1,135	14.30	11.30	12 50	15,501	11,876	14, 188
	1,676	1,659	1,725	14.50	10.50	13.10	24,302	17,420	22, 598
	2,262	2,330	2,610	15.30	11.20	13.20	34,609	26,096	34, 452
	7,471	8,218	9,615	14.50	11.00	12.80	108,330	90,398	123, 072
	3,656	3,915	4,306	11.00	8.50	9.80	40,216	33,278	42, 199
North Dakota	431	435	478	14.00	11 00	13.50	6,034	4,785	6,453
South Dakota	1,759	1,935	2,283	13.50	10.00	13.50	23,746	19,350	30,820
Nebraska	3,505	3,680	4,232	13.50	10.00	12.00	47,318	36,800	50,784
Kansas	1,837	2,275	2,776	12.00	9.50	11.00	22,044	21,612	30,536
Kentucky	1,278	1,214	1,311	9.90	7.50	8.80	12,652	9,105	11,537
Tennessee Alabama Mississippi Louisiana Texas	1,594	1,546	1,654	9.50	8. 00	9.30	15,143	12,368	15,382
	1,347	1,307	1,281	10.00	8. 60	9.30	13,470	11,240	11,913
	1,195	1,183	1,207	9.50	8. 00	8.00	11,352	9,464	9,656
	749	756	756	11.70	8. 60	7.80	8,763	6,502	5,897
	2,426	2,475	2,326	11.80	8. 50	8.80	28,627	21,038	20,469
Oklahoma	1,213	1,334	1,401	10.30	8.50	8.80	12,494	11,339	12,329
Arkansas	1,268	1,125	1,114	8.80	7 10	6.90	11,158	7,988	7,687
Montana	160	180	198	16.50	13.10	13.20	2,640	2,358	2,614
Wyoming	68	73	84	14.00	12.00	12.50	952	876	1,050
Colorado	414	455	523	12.30	9 60	10.50	5,092	4,368	5,492
New Mexico	90	94	89	15. 00	9.00	10.00	1,350	846	890
Arizona.	48	50	57	16. 00	12.00	13.00	768	600	741
Utah	90	90	108	13 00	10.00	10.90	1,170	900	1,177
Nevada.	25	25	25	11. 00	10.00	14.00	275	250	350
Idaho	206	196	235	12.50	11.00	11.50	2,575	2,156	2,702
Washington	236	197	217	15 00	12.50	14.80	3,540	2,462	3,212
Oregon	240	220	231	12.80	10.70	11.20	3,072	2,354	2,587
California	818	834	876	14.50	11.70	11 80	11,861	9,758	10,337
United States	56,097	57, 834	63,424	12.97	10.07	11 46	727,380	582,448	726,699

¹ Preliminary estimate

Table 465.—Swine: Yearly losses per 1,000, from disease, 1888-1923.

		1		7			
Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.	Year.	Losses per 1,000.
1888. 1889. 1890. 1891. 1892. 1893. 1894. 1895. 1896.	77. 5 61. 7 76. 1 83. 7 54. 4 63. 1 48. 6 92. 3 127. 0	1897 1898 1899 1900 1901 1901 1902 1903 1904 1904	144. 0 92. 8 82. 1 64. 4 74. 7 51. 5 58. 2 57. 9	1906	51. 1 48. 9 52. 4 51. 0 45. 1 44. 8 89. 2 110. 1	1915. 1916. 1917. 1918. 1919. 1920. 1921. 1922.	66. 2 48. 6 42. 1 41. 4 49. 8 43. 0 54. 4

TABLE 466.—Hogs: Farm price per 100 pounds, 1910-1922.

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1910 1911 1912 1913	\$7.76 7.44 5.74 6.77 7.45	\$7.87 7.04 5.79 7.17 7.75	\$8.93 6.74 5.94 7.62 7.80	\$9.26 6.17 6.78 7.94 7.80	\$8.59 5.72 6.79 7.45 7.60	\$8.46 5.66 6.65 7.61 7.43	\$8. 15 5. 92 6. 64 7. 81 7. 72	\$7.78 6.54 7.11 7.79 8.11	\$8.27 6.53 7.47 7.68 8.11	\$8 08 6.09 7.70 7.60 7.43	\$7.61 5.86 7.05 7.33 7.00	\$7. 16 5. 72 6. 89 7. 16 6. 67
1915 1916 1917 1918	6.57 6.32 9.16 15.26	6.34 7.07 10.33 15.03	6.33 7.86 12.32 15.58	6. 48 8. 21 13. 61 15. 76	6.77 8.37 13.72 15.84	6.80 8.21 13.50 15.37	6. 84 8. 40 13. 35 15. 58	6.61 8.61 14.24 16.89	6.79 9.22 15.69 17.50	7. 18 8. 67 16. 15 16. 50	6.35 8.74 15.31 15.92	6. 02 8. 76 15. 73 15. 82
1919 1920 1921 1922	15.69 13.36 8.72 6.89	15.53 13.62 8.58 8.24	16.13 13.59 9.13 9.08	17. 39 13. 73 7. 96 8. 83	18.00 13.44 7.62 9.05	17.80 13.18 7.22 9.11	19. 22 13. 65 8. 09 9. 12	19.30 13.59 8.73 8.54	15. 81 13. 98 7. 51 8. 23	13.88 13.57 7.31 8.33	13.36 11.64 6.66 7.78	12.66 8.90 6.52 7.63
Av. 1913-1922	9.62	9.97	10.54	10.87	10.79	10.62	10.98	11. 24	11.05	10.66	10.01	9. 59

Table 467.—Hogs: Monthly farm price per 100 pounds, 15th of month, by States, 1922.

, , , , , , , , , , , , , , , , , , ,					.	1		,	-5	,	- 3	, -	
State.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.	Aver- age.
Maine	\$7.60	\$8.00	\$9.20	\$9.60	\$9. 20	\$9.60	\$9.30	\$9.10	\$8.90	\$9.50	\$9. 20	\$9.00	\$9.02
	7.80	8.50	8.80	8.70	9. 50	9.10	9.00	9.70	8.80	8.60	8. 90	8.90	8.86
	7.20	8.10	9.00	8.40	9. 00	9.40	9.50	9.20	8.50	8 70	8. 70	8.30	8.67
	8.10	9.10	10 10	9.70	11. 30	10.20	10.40	9.60	9.60	10 10	10. 20	9.30	9.81
	9.50	9.60	10 00	9.90	10. 70	10.40	10.00	10.50	9.80	10.80	10. 60	11.00	10.23
Connecticut New York New Jersey Pennsylvania Delaware	9.00	9.00	9.50	10.00	10.50	9.10	10. 40	10.00	10.00	11, 20	10.00	10.20	9. 91
	7.60	8.30	9.20	9.10	9.40	9.40	9. 60	9.60	9.00	9, 30	9.10	9.00	9. 05
	9.20	9.30	9 80	9.50	9.00	11.00	10. 00	9.50	9.00	9, 00	9.00	9.00	9. 44
	8.20	9.20	10.00	9.70	9.50	9.90	9. 80	9.60	9.50	9, 50	9.20	9.30	9. 45
	8.20	9.50	10.00	10.00	10.00	10.00	9. 60	10.00	10.00	10, 80	10.50	10.10	9. 89
MarylandVırgınıaWest Vu giniaNorth CarolinaSouth Carolina	7. 90 7. 60 9. 60	8. 80 8. 40 8. 40 9. 20 8. 00	9.80 9.40 9.10 9.40 8.20	9. 20 9. 10 8. 70 9. 80 8. 30	9.60 9.20 9.10 8.70 8.30	9.50 9.30 8.90 9.40 8.40	9.90 9.60 8.80 9.90 9.00	9 60 9.50 8.90 9.90 9.00	9.40 9.20 8.90 9.80 9.00	9.50 9.40 8.50 10.10 8.70	9. 10 8. 90 8 80 10. 40 8. 80	9. 40 8. 50 8. 60 10. 30 8. 50	9.32 9.03 8.69 9.71 8.52
GeorgiaFloridaOhioIndianaIllinois	6.00	6. 10	7.10	7.10	7. 60	8. 10	8.00	8.00	8.00	8.20	7.70	7.30	7. 43
	5.70	5. 90	7.20	7.50	7. 50	8. 50	8.00	8.00	7.70	7.50	7.00	6.70	7. 27
	7.50	9. 10	10.30	9.80	10. 00	9. 90	10.10	9.10	9.00	8.90	7.90	7.80	9. 12
	7.40	9. 00	10.00	9.60	9. 80	9. 90	10.10	9.00	8.70	8.80	7.80	7.70	8. 98
	7.00	8. 70	9.70	9.30	9. 40	9. 40	9.60	8.80	8.80	8.60	7.70	7.60	8. 72
Michigar	7. 20	8. 80	9.60	9.50	9. 70	9.80	9.50	9.10	8. 60	8.90	8. 00	7.80	8. 88
Wisconsin	6. 60	8. 20	9.20	8.90	9. 20	9.30	9.10	8.50	8. 00	8.20	7. 40	7.30	8. 32
Minnesota	6. 50	8. 60	9.30	9.10	9. 40	9.30	8.90	8.10	7. 70	8.00	7. 40	7.40	8. 31
Iowa	6. 80	8. 80	9.70	9.40	9. 60	9.60	9.50	8.60	7. 90	8.20	7 40	7.40	8. 58
Missouri	6. 80	8. 50	9.40	8.90	9. 30	9.30	9.30	8.90	8. 20	8.90	7. 50	7.50	8. 54
North Dakota	5. 90	7. 20	8.00	7.50	8.00	8.00	8. 20	7.60	7. 00	7.30	7.00	6.90	7.38
South Dakota	6. 40	8. 10	9.20	8.90	9.10	9 20	8. 90	7.70	7. 30	7.70	7.10	7.10	8.06
Nebraska	6. 30	8. 40	8.90	9.00	9.10	9.20	8. 80	7.70	7. 50	7.50	7.10	7.00	8.04
Kansas	6. 40	8. 40	9.00	9.00	9.30	9.40	9. 30	8.50	8. 10	8.20	7.20	7.20	8.33
Kentucky	7. 30	8. 50	9.50	8.90	9.20	9.10	9. 60	9.00	8. 60	8.20	7.70	7.90	8.62
Tennessee Alabama Mississippi Louisiana Texas	7.00	8. 50	9.00	8.60	8.70	9.00	9.50	8.70	9.50	8.30	8.00	7.90	8.56
	6.20	6. 80	7.20	7.40	8.30	8.10	8.30	8.10	7.80	7.80	9.50	7.90	7.78
	6.50	6. 60	7.60	7.30	7.80	7.30	7.30	7.50	7.50	7.80	7.70	7.80	7.39
	6.80	6. 70	7.10	6.80	7.00	6.50	6.70	6.50	7.30	7.10	7.60	7.20	6.94
	5.80	6. 80	7.30	7.40	7.50	7.50	7.60	7.40	7.00	7.20	7.40	7.20	7.18
Oklahoma Arkansas Montana Wyoming Colorado	6.00 7.20	7. 60 6. 50 7. 70 6. 70 7. 50	8. 40 6. 90 8. 40 8. 00 9. 00	8.50 5.80 8.90 8.10 8.90	8.80 7.00 8.90 9.20 8.80	8.90 7.00 8.80 8.30 9.00	8.50 7.10 9.00 9.00 8.90	8.00 7.20 9.00 8.00 8.70	7. 50 7. 00 9. 00 8. 10 8. 50	7.50 7.20 8.90 8.40 8.20	7. 20 6. 90 8. 80 7. 60 7. 50	7.10 6.60 8.20 7.00 7.00	7. 85 6. 77 8. 57 7. 91 8. 17
New Mexico	6. 20	6.70	8. 10	8. 10	8. 10	8. 20	8. 80	8. 50	7. 30	7.60	7.50	7.00	7. 68
Arizona	8. 20	9.00	9. 00	9 00	9. 50	9. 50	9. 20	9. 50	9. 50	10.00	9.70	8.50	9. 22
Utah	7. 20	8.50	9. 10	9. 50	8. 70	9. 50	8. 70	8. 80	8. 00	8.20	8.00	7.40	8. 47
Nevada	7. 20	9.50	9. 60	10. 00	10. 00	11. 00	9. 50	11. 00	9. 00	10.00	9.80	9.20	9. 65
Idaho	7.70	8. 20 9. 20 10. 50 9. 00	8. 60 10. 40 11. 00 10. 40	9. 10 10. 40 10. 70 10. 20	9.30 10.50 10.20 10.30	9.60 10.10 10.50 10.20	10.60 10.50	10.00 10.80 11.00 11.00	9.00 9.70 9.00 10.30	9. 20 9. 80 9. 50 10. 00	8. 20 9. 10 8. 70 10. 00	7.60 8.50 8.20 9.40	8.75 9.73 9.82 9.96
United States	6. 89	8. 24	9.08	8. 83	9.05	9. 11	9.12	8.54	8. 23	8.33	7.78	7.63	8.32

Table 468.—Hogs: Monthly and yearly average price per 100 pounds, Chicago, 1910 to 1922.

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Weight- ed aver- age.
1910. 1911. 1912. 1913. 1914. 5-year average	\$8. 55 7. 95 6. 25 7. 45 8. 30 7. 70	7. 40 6. 20 8. 15 8. 60	7. 10 8. 90 8. 70	6. 25 7. 80 9. 05 8. 65	6.00 7.65 8.55 8.45	6. 25 7. 50 8. 65 8. 20	6.70 7.65	7.30 8.25 8.35 9.00	6. 90 8. 45 8. 30 8. 85	6. 45 8. 75 8. 20 7. 65	6.30 7.75 7.75 7.50	6. 40 7. 40 7. 70 7. 10	6.70 7.55 8.35 8.30
1915. 1916. 1917. 1918. 1919. 5-year average	6, 90 7, 20 10, 90 16, 30 17, 60 11, 78	8. 20 12. 45 16. 65 17. 65	9.65 14.80 17.10 19.10	9.75 15.75 17.45 20 40	9, 85 15, 90 17, 45 20, 60	9.70 15.50 16.60	9.80 15.20 17.75 21.85	10.30 16.90 19.00 20.00	10.70 18.20 19.65	9.80 17.15 17.70 14.35	9.60 17.40 17.70 14.20	9, 95 16, 85 17, 55 13, 60	9. 60 15. 10 17. 45 17. 85
1920 1921 1922	14.97 9.41 8.02	9.42	10.00	8.50	8.35	8.19	9.69	9.26	7.61	7.72	7.01	6, 92	8. 51

¹ Prior to 1920 figures compiled from Chicago Drovers Journal Year Book, subsequent figures from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau Agricultural Economics. (Computed from packer and shipper purchases)

Table 469 — Hogs. Monthly average and top price per 100 pounds, 1922.1

UHIUAGO.												
	Butcher	, bacon, a	and shipp	per hogs.	Packin	g sows.						
Months.	weight (251 lbs. up).	Medium weight (201-250 lbs.), medium to choice.	weight (151-200 lbs.).	lbs.).	(250 lbs.	Rough (200 lbs. up).	Pigs (130 lbs. down), medium to choice.	(130 105.	Bulk of sales.	Top.		
January. February. March. April.	\$7.78 9.63 10.39 10.31	\$8.01 9.84 10.58 10.50	\$8.27 10.03 10.72 10.59	\$8.41 9.96 10.37 10.34	\$6.88 8.73 9.61 9.56	\$6.46 8.40 9.33 9.26	\$8.34 9.38 9.52 9.78		\$7.95 9.74 10.48 10.35	\$9.60 11.35 11.50		
May June July August	10.49 10.51 10.32 8.88	10.65 10.67 10.59 9.50	10.76 10.78 10.78 9.84	10. 53 10. 56 10. 53 9. 66	9.65 9.55 8.80 7.54	9.35 9.09 8.26 6.98	10.02 9.96 9.92 9.03		10.50 10.34 9.77 8.58	11.00 11.00 11.15 11.00		
September October November December	9.17	9. 66 9. 52 8. 29 8. 27	9.86 9.38 8.23 8.30	9. 46 9. 20 8. 27 8. 30	7.68 8.15 7.69 7.73	7. 14 7. 59 7. 36 7. 45	8. 73 8. 97 8. 36 8. 10		8.70 8.90 8.15 8.18	10.78 10.48 8.78 8.70		
Average	9.42	9.67	9.80	9.63	8.46	8, 06	9.18		9.30	2 11.50		
			EA	ST ST.	LOUIS.			·				
January February March April	10.45	\$8.14 9.83 10.64 10.42	\$8.40 10.00 10.64 10.42	\$8.40 9.92 10.24 10.16	\$6.27 7.91 8.94 8.85	\$5.68 7.40 8.61 8.44	\$7.98 9.19 9.47 9.53	\$7.55 8.40 8.74 8.98	\$8, 22 9, 86 10, 59 10, 41	\$9.75 11.35 11.55 10 90		
May June July August	10.52 10.35	10.65 10.68 10.64 9.59	10.61 10.69 10.80 9.82	10.45 10.56 10.68 9.73	9.12 9.09 8.49 7.24	8.75 8.83 8.26 6.96	9.95 10.22 10.38 9.29	9.60 10.03 9.95 8.81	10.64 10.69 10.68 9.70	10.98 11.03 11.28 11.00		
September October November December	. 9.30	9.84 9.43 8.20 8.31	9. 83 9. 32 8. 21 8. 34	9.67 9.16 8.26 8.31	7.54 8.09 7.19 7.32	7. 13 7. 66 6. 88 7. 07	9. 22 8. 89 8. 37 7. 96	8. 64 8. 40 7. 97 7. 80	9. 86 9. 42 8. 29 8. 35	10. 50 10. 26 8. 65 8. 85		
Average	9.47	9.70	9.76	9.63	8.00	7.64	9. 20	8.74	9.73	2 11. 55		
¹ Prices compiled f of Agricultural Econ	rom data omics.	of the re	porting	service o	the Liv	e Stock,	Meats, a	nd Wool	Division	, Bureau		

² Ton price for week

Table 469.—Hogs: Monthly average and top price per 100 pounds, 1922.—Continued.

KANSAS CITY.

	Butche	r, bacon,	and ship	per hogs.	Packin	g sows.				
Months.	Heavy weight (251 lbs up), medium to choice.	Medium weight (201-250 lbs.), medium to choice	Light weight (151-200 lbs.), common to choice.	lbs.),	Smooth (2501bs. up).	Rough (200 lbs. up).	Pigs (130 lbs. down), medium to choice	Stock pigs (130 lbs down), common to choice.	Bulk of sales.	Top.
January February March	\$7 51 9 01 9.94 9.94	\$7.68 9.38 10.21 10.09	\$7. 71 9. 34 10. 17 10. 04	\$7.62 9.21 10.03 9.92	\$6.24 7.57 8.82 8.90	\$5.71 7.00 8.38 8.55		\$7.58 8.65 9.48 9.82	\$7.58 9.28 10.07 10.01	\$9.05 11.10 11.25 10.60
MayJuneJulyAugust	10.30 10.21 9.87 8.77	10. 42 10. 41 10. 29 9. 03	10. 38 10. 40 10. 26 9 02	10.31 10.32 10.20 9.03	9, 19 9, 00 8, 26 7, 31	8. 88 8. 76 8. 02 7. 01		10. 19 10. 39 10. 07 9. 16	10. 34 10 30 10. 07 8. 94	10. 75 10. 75 10. 75 10. 40
September October November December	8. 88 8. 84 7. 87 8 02	8. 99 8. 94 7. 95 8. 09	8. 97 8. 88 7. 90 8. 00	8. 85 8. 66 7. 86 7. 88	7. 57 7. 68 7. 14 7. 41	7. 24 7. 34 6. 90 7. 19		8 95 8.43 7.86 7.28	9. 08 8. 91 7. 92 8. 03	10. 15 10. 00 8. 40 8. 40
Average	9.10	9.29	9. 26	9. 16	7.92	7.58		8. 99	9. 21	² 10. 75
				ОМАН	IA.					
January February March April	\$7.41 9.21 9.94 9.94	\$7.53 9.37 10.04 10 04	\$7.55 9.46 10 13 10 11	\$7.66 9.41 10.00 9.84	\$6.31 8.22 9.11 9.39	\$5.84 7.64 8.61 9.00		\$7.48 9.26 9.97 9.72	\$7.47 9.26 9.97 9.96	\$9. 10 10. 75 10 90 10. 55
MayJuneJulyAugust	10.15 10.00 9.66 8.53	10. 24 10. 16 10. 13 8. 94	10.31 10 28 10.26 9.22		9. 53 9. 25 8. 48 7. 50	9.09 8.85 7.90 7.08		9.88 9.81 9.48 8.56	10.15 9.88 9.25 8.23	10.60 10.60 10.65 10.40
September	8. 69 8. 64 7. 83 7. 94	9. 00 8. 94 7 91 7. 97	9 28 9.01 7.77 7.84		7. 57 7. 80 7. 29 7. 33	7. 20 7. 45 7. 08 7. 10		7. 96 8. 19 7. 37 7. 18	8 34 8.34 7.62 7.86	10. 25 10. 25 8. 25 8. 25
Average	9.00	9. 19	9. 28		8. 15	7. 74		8. 74	8.86	² 10, 90
	<u>'</u>		SOUT	H ST.	JOSEPE	[.8	·			
JuneJulyAugustSeptember	\$10.10 9.82 8.46 8.58	\$10.36 10.30 9 10 8.98	\$10.43 10.37 9.25 9.09		\$9.01 8.29 7.35 7.66	\$8.78 8 04 7.05 7.38			\$10.30 10.10 8.76 8.59	\$10 75 10.80 10.20 10 10
October November December	8. 63 7. 87 7. 99	8.86 7.95 8.06	8.81 7 87 8.00		7.71 7.31 7.50	7. 42 7. 08 7. 28			8 40 7.87 8.01	10.05 8 35 8.35
Average	8.78	9.09	9. 12		7.83	7.58			8.86	2 10. 80
	,		sou	TH ST.	PAUL					
January. February. March. April.	\$7.43 9.29 9.94 10.01	\$7.62 9.46 10.12 10 12	\$7.90 9.65 10.23 10.21	\$7.95 9.70 10.30 10.24	\$6 43 8.12 8.87 9.12	\$5. 98 7. 60 8 41 8. 77	\$8.47 9.91 10.29 10.56	\$8.35 9.91 10.29 10.54	\$7.62 9.43 10.12 10.07	\$8. 25 10. 60 11. 15 10 60
MayJune. JulyAugust	9. 93 9. 80 9. 24 8. 46	10.08 10.04 9.61 8.79	10, 22 10, 27 10, 23 9, 39	10. 27	9. 20 8. 82 7. 96 7. 12	8 82 8 40 7 31 6 62		10 86 10.54 10.26 9 25	10.02 9.90 9.00 8.09	10.60 10.75 10.75 10.60
September October November December	8. 63 8. 52 7. 68 7 86	8.92 8.70 7.75 7.93	9.34 8.85 7.79 7.99	9. 18 8. 82 7. 79 8. 00	7. 48 7. 82 7. 31 7. 43	7. 08 7. 50 7. 04 7. 22	8. 60 8. 00 8. 10	8. 92 8. 72 8 00 8.09	8. 34 8. 30 7. 71 7. 92	10.05 9.70 8.10 8.35
Average	8.90	9.10	9.34	9 14	7.97	7.56	9. 13	9.48	8. 88	² 11.15

Table 470.—Hogs: Trend of average farm prices and average market prices per 100 pounds, at Chicago, 1910-1922.

W	Average	Average market	Price relatives 1913—100.		
Year.	farm	price at	Farm	Market	
	price.	Chicago	price.	price.	
1910	7.44	\$8. 90	109. 1	106 6	
1911		6. 70	84. 5	80. 2	
1912		7 55	89. 2	90 4	
1913		8. 35	100 0	100. 0	
1914		8. 30	100. 9	99. 4	
1915.	6. 56	7. 10	88. 2	85. 0	
1916.	8. 11	9. 60	109. 0	115. 0	
1917.	13. 41	15. 10	180. 2	180. 8	
1918.	15. 82	17. 45	212. 6	209. 0	
1919.	16. 04	17.85	215.6	213 8	
1920.	12. 85	13.91	172.7	166.6	
1921.	7. 85	8.51	105.5	101.9	
1922.	8. 32	9.22	111 8	110.4	

¹ Faim prices from Division of Crop and Live Stock Estimates, market prices compiled from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau of Agricultural Economics.

Table 471.—Hogs: Prices of live hogs in Chicago, and wholesale and retail prices of certain pork products.1

[Prices are in cents per pound.]

			Hai	ns		Bacon.					
Year and month.	Price of live hogs, Chicago	Smoked sale j	, whole- orice.	Retail	price.2	Short cle wholesa	ar sides, le price.	Retail	price.		
	(Per 100 lbs.)	Chicago market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.	Chicago market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.		
1913 1914 1915 1916 1917	\$8 35 8.30 7.10 9.60 15 10	16. 6 16 7 15 3 18. 5 25. 2	199 201 216 193 167	26. 9 27. 3 26. 1 29. 4 38 2	322 329 368 306 253	12.7 13.2 11 6 14.9 24 8	152 159 163 155 164	27 0 27 5 26 9 28 7 41 0	323 331 379 299 272		
1918 1919 1920 1921 1922	17. 45 17. 85 13. 91 8 51 9. 22	31 8 34 3 33 4 26.8 26 5	182 192 240 315 287	47 9 53. 4 55. 5 48 8 48. 8	274 299 399 573 529	27. 9 29. 1 20. 7 13. 5 14 1	160 163 149 159 153	52 9 55 4 52.3 42.7 39.8	303 310 376 502 432		
1922. January February March April	9.90	22. 1 26. 7 30 6 30 9	276 270 293 300	44 2 46 5 49 7 50.7	551 470 476 492	11 6 13.4 14.8 14 2	145 135 142 138	37. 6 37. 8 39. 0 39. 7	469 382 374 385		
MayJuneJulyAugust	10.33	31.3 31.3 30.1 26.4	299 303 310 330	51 3 52.0 52 2 50 8	490 503 538 634	14. 9 15. 7 14. 9 13. 9	142 152 154 174	39. 8 40. 4 40. 6 40. 6	380 391 419 507		
September October November December	8.80 8.07	23. 5 23. 2 21 3 20 6	269 264 264 252	48. 4 47. 6 46. 3 45 4	553 541 574 535	13.5 14.3 14.0 13.9	154 162 174 170	40. 4 40. 8 - 40. 9 40. 3	462 464 507 493		

¹ Wholesale prices of ham, bacon, and pork loins in Chicago and of lard in New York. Retail prices in 51 cities throughout the United States. Price of live hogs, Bureau of Agricultural Economics; other prices from Bureau of Labor Statistics.
² Mostly on sliced ham.

Table 471.—Hogs: Prices of live hogs in Chicago, and wholesale and retail prices of certain pork products—Continued.

		Fresh	pork		Lard.						
Year and month.	Pork wholesa	loins, le price.	Pork o retail	chops, price.	Prime o	contract, le price.	Retail	price.			
	Chicago market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.	New York market.	Per cent of live hogs.	In 51 cities.	Per cent of live hogs.			
1913. 1914. 1915. 1916.	14.9 15.4 14.3 16.2 24.4	178 186 201 169 162	21. 0 22 0 20 3 22 7 31. 9	252 265 286 236 211	11 0 10 4 9.4 13 5 21 7	132 125 132 141 144	15.8 15.6 14.8 17.5 27.6	189 188 208 182 183			
1918	29 5 31.5 30.7 22 5 21 7	169 176 221 264 235	39 0 42 3 42 3 34 9 33 0	224 237 304 410 358	25 5 29.0 20.0 11.1 11 5	146 162 144 130 125	33.3 36.9 29.5 18.0 17.0	191 207 212 212 184			
1922. January February March April	16 0 16 9 22.6 23 6	200 171 218 229	28 8 29 3 31 3 33 0	359 296 300 320	10 0 11 8 11 6 11.2	125 119 111 109	15. 4 15. 9 17. 3 16. 9	192 161 166 164			
May June July August	23 8 20 0 23 8 25 6	227 194 245 320	34 4 33 9 34 4 35.1	328 328 355 438	11.9 12.1 11.7 11.3	114 117 121 141	17.0 17 2 17.2 17.2	162 166 177 215			
September October November December	28. 4 25. 8 18 5 15 2	325 293 229 186	36 4 36 6 33 0 29.5	416 416 409 361	11 3 11 7 12.1 11.4	129 133 150 139	17. 2 17. 5 17. 6 17. 5	197 199 218 214			

TIBLE 472 -Hogs: Monthly statement of the live-stock and meat situation, 1922.

[Numbers and quantities in thousands, 1 e., 000 omitted.]

HOGS, PORK, AND PORK PRODUCTS.

	Janu- ary.	Febru- ary	March	Aprıl	Мау.	June.
Estimated number hogs on farms in United States 1	57, 834	50, 373	48, 407	57, 545	67, 608	69, 979
	4, 278	3, 613	3, 411	3, 067	3, 736	3, 776
stockyards Inspected slaughter of hogs 2. Average live weight 3. Average dressed weight 3. Average dressed weight 4. Total dressed weight (carcass) 3. Pounds of lard per 100 pounds, live weight 3.	3, 985 224 174 693, 020 16, 8	3, 480 222 171 594, 090 16, 9	75 3, 350 222 170 569, 838 17, 0	56 2,946 225 173 508,909 17,2	70 3,716 226 173 644,495 16.8	57 4, 046 231 178 720, 687 16. 4
Storage first of month. 3 Fresh pork pounds Cured pork do. Lard do. Imports: 4 Fresh pork do.	51, 203	71, 722	86, 219	98, 765	103, 907	114, 571
	363, 893	413, 176	461, 231	492, 458	490, 335	521, 084
	47, 541	61, 202	61, 297	86, 031	96, 055	123, 798
Exports: 4, 5 Fresh pork do. Cured pork do. Canned pork do. Sausage do. Lard do	1, 064	879 58, 812 265 607 78, 091	911 57, 717 151 542 65, 633	948 45, 147 301 720 43, 730	684 46, 400 364 1, 189 51, 993	27 2, 096 58, 626 175 1, 031 58, 957
Prices per 100 pounds: Average cost in Umted States all classes and grades. Live hogs medium weight (Chicago). Fresh pork loins, 10-14 pounds (eastern markets). Shoulders, skinned (eastern markets).	\$7.96	\$9.59	\$10.39	\$10.36	\$10. 25	\$10.33
	\$8.01	\$9.84	\$10.58	\$10.50	\$10. 65	\$10.67
	\$15.53	\$16.77	\$19.25	\$22.48	\$21. 84	\$19.14
markets). Butts, Boston style (eastern markets). Bacon, breakfast (eastern markets). Hams, smoked, 10-12 pounds (eastern	\$11.67 \$15.08 \$23.22	\$14.08 \$13.50 \$16.42 \$24.37	\$16. 22 \$15. 32 \$18. 44 \$26. 63	\$15. 42 \$14. 60 \$18. 57 \$26. 42	\$15. 44 \$14. 62 \$18. 06 \$27. 13	\$14.66 \$14.78 \$17.50 \$28.25
markets)	\$22.55	\$26.80	\$31.12	\$31.46	\$30, 87	\$30.29
	\$10.61	\$11.97	\$13.15	\$12.23	\$12, 99	\$13.17

Reports of Division of Crop and Live Stock Estimates, Bureau Agricultural Economics.
 Reports of Bureau of Animal Industry.
 Reports of Division of Statistical and Historical Research, Bureau Agricultural Economics.
 Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
 Other figures in table from data of the reporting service of the Live Stock, Meats, and Wool Division, Bureau Agricultural Economics.
 Including reexports.

Table 472.—Hogs: Monthly statement of the live-stock and meat situation, 1922—Con. HOGS, PORK, AND PORK PRODUCTS-Continued.

	July.	August.	Septem- ber.	October.	Novem- ber	Decem- ber.	Total January- Decem- ber
The state of the s							
Estimated number hogs on farms in United States 1. Receipts of hogs at all public stockyards.	70, 037 2, 980	70, 326 3, 037	75, 763 3, 062	77, 671 3, 682	77, 440 4, 421	72,755 5,004	44,067
Stocker and feeder shipments from all	0.1			40			
public stockyards. Inspected slaughter of hogs 2	31 3, 094	2, 888	34 2,748	3, 305	55 4, 345	5, 201	593 43,114
A warage live weight 3 Dounds	239	2,000	234	219	215	220	10,114
A warage dressed weight 3do	183	182	178	166	163	170	
Total dressed weight (carcass) 3do	568, 898	525, 889	488, 252	552, 111	701.719	881, 748	7,449,656
Pounds of lard per 100 pounds live	16.0	15. 4	16.6	15.3	15.0	15.8	
weight ³ . Storage first of month: ³		10. 4	10.0	10.0	10.0	10.0	
Fresh pork pounds. Cured pork do Lard do	128, 962	117, 903	84, 815	46, 796	30, 688	33, 774	
Cured porkdo	578, 422	565, 548	534, 856	436, 300	364, 482	385, 725	
Larddo	154, 254	143, 084	119, 755	75, 338	36, 750	32, 506	
Imports: 4, 6 Fresh porkdo		29	76	54	82		1
		20	1	01	02	}	1
Exports: **) Fresh pork do. Cured pork do. Canned pork do. Sausage do. Lard do.	2,516	2,092	2, 198	2, 257	5, 378	5, 951	26,974
Cured porkdo	62, 496	54, 736	55, 048	55, 160	55, 210	68, 862	670,081
Canned porkdo	168	238	159	204	188	142	2,563
Sausagedo	1,029	955	676 62,718	736 68, 095	687 63, 799	937 81, 112	9,704 787,447
Prices per 100 pounds:	68, 246	70, 600	02,710	00,090	05, 199	01,112	101, 111
Average cost in United States all				1		1	
classes and grades	\$10.00	\$8, 85	\$8.85	\$8.99	\$8.54	\$8.17	
Lave hogs medium weight (Chicago).	\$10.59	\$9.50	\$9.66	\$9.52	\$8.29	\$8 27	
Fresh pork loins, 10-14 pounds			201.17	204 00	010.00	#17 00	
(eastern markets)	\$19.79	\$21.51	\$24.41	\$24.39	\$19.82	\$15, 80	
Shoulders, skinned (eastern mar-	\$15, 16	\$15.18	\$15.56	\$15, 58	\$14.96	\$13.42	
kets)	\$10.10	910.10	ψ10.00	410.00	W.1.00	420. 22	1
(eastern markets)	\$15.34	\$14.75	\$12.75	\$13.73	\$13.50	\$11.67	
Butts, Boston style (eastern mar-	\$17.45	\$17.90	\$18.50	\$19.02	\$18.64	\$15.81	
kets)			205.04	200 70	207 -3	\$27 46	i
Bacon, breakfast (eastern markets).	\$28.37	\$27.80	\$25.84	\$28.13	\$27. 52	<i>₽41</i> 40	
Hams, smoked, 10-12 pounds (east-	\$29.87	\$26.05	\$23,02	\$22.94	\$21, 37	\$20.94	1
ern markets) Lard, tierces (eastern markets)	\$13.05	\$13.01	\$12.73	\$13.06	\$12.69	\$12.57	

¹ Reports of Division of Crop and Live Stock Estimates. Bureau Agricultural Economics.
2 Reports of Bureau of Animal Industry.
3 Reports of Division of Statistical and Historical Research, Bureau Agricultural Economics.
4 Reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.
Other figures in table from data of the reporting service of the Live Stock, Meats, and Wool Division,
Bureau of Agricultural Economics.
5 Including exports.
6 Import figures not available for December, 1922.

Table 473.—Hogs: Yearly receipts and shipments at principal markets and all markets. 1900 to 1922.1

[000 omitted.] RECEIPTS.

Year.	Chi- cago.	Den- ver.	East. St. Lows.	Fort. Worth.	Kansas City.	Oma- ha.	St. Joseph.	St. Paul.	Sioux City.	Total.	All other markets.	Total all mar- kets.
1900 1901 1902 1903	8,109 8,290 7,895 7,326 7,239	116 109 87 147 162	1,792 1,924 1,330 1,568 1,955	(2) (2) 79 151 281	3,094 3,716 2,279 1,969 2,227	2,201 2,414 2,247 2,231 2,300	1,679 2,105 1,698 1,701 1,657	500 617 668 760 882	833 960 1,008 1,008 1,113	18, 324 20, 135 17, 291 16, 861 17, 816	(3) (3) (3) (8) (8)	(3) (3) (3) (3) (3)
1905 1906 1907 1908	7,726 7,275 7,201 8,131 6,619	191 193 241 280 242	2,026 1,923 2,065 2,560 2,473	463 551 488 703 868	2,508 2,676 2,924 3,715 3,093	2, 294 2, 394 2, 254 2, 425 2, 135	1,900 1,908 1,923 2,349 1,694	855 861 867 1,133 725	1,299 1,158 1,289 1,381 1,077	19, 262 18, 939 19, 252 22, 677 18, 926	(3) (3) (3) (3) (3)	(3) (3) (3) (3) (3)
1910 1911 1912 1913 1914	5,587 7,103 7,181 7,571 6,618	187 220 222 247 256	2,054 3,108 2,530 2,584 2,559	541 556 388 404 515	2,086 3,168 2,523 2,568 2,265	1,894 2,367 2,886 2,543 2,259	1,353 1,922 1,970 1,869 1,725	836 911 984 1,257 1,590	1,044 1,349 1,698 1,533 1,257	15,582 20,704 20,382 20,576 19,044	(3) (3) (8) (8)	(3) (3) (3) (3) (3)
1915 1916 1917 1918	7,652 9,188 7,169 8,614	344 467 352 384	2,592 3,057 2,706 3,256	464 968 1,062 762	2,531 2,979 2,277 3,328	2,643 3,117 2,797 3,430	1,698 2,199 1,920 2,351	2,155 2,675 1,928 2,061	1,761 2,131 2,149 2,421	21, 840 26, 781 22, 360 26, 607	14,373 16,484 15,682 18,256	36, 213 43, 265 38, 042 44, 863
1919	8,672 7,526 8,148 8,156	368 341 334 395	3,651 3,399 3,330 3,606	588 413 382 510	3,141 2,466 2,205 2,655	3,179 2,708 2,665 2,839	2,126 1,914 1,785 2,061	2,190 2,247 2,209 2,523	2,322 2,173 1,739 1,856	26, 237 23, 187 22, 797 24, 601	18,232 18,934 18,304 19,466	44,469 42,121 41,101 44,067
					SHIP	MENT	S.4				*****	
							1					
1900	1,452 1,301 1,252 1,238 1,626	(3) (3) (3) (3)	418 370 143 249 373	(5) (5) (5) (5) (6)	(3) (3) (3) (3) (3)	37 49 170 51 211	83 117 91 122 93	45 55 29 50 72	110 123 143 539 614	2,145 2,015 1,828 2,249 2,989	(8) (8) (8) (8)	(8) (3) (8) (3) (3)
1901	1,238	(3) (8) (3) (3) (3) (3) (3) (4) (8) (8)	370 143 249	99999	(3) (3) (3) (3) (3) (4) (8) (8) (8) (8)	49 170 51	91 122	55 29 50	123 143 539	2, 145 2, 015 1, 828 2, 249 2, 989 3, 067 2, 722 3, 014 3, 439 3, 197	(8)	(3) (3) (3) (3) (3) (3) (3) (3) (8) (8)
1901 1902 1903 1904 1905	1,238 1,626 2,028 1,743 1,712 1,870		370 143 249 373 487 583 753 711		(3) (3) (3) (8) (8) (8) (8)	49 170 51 211 172 171 119 284	91 122 93 68 60 117 84	55 29 50 72 33 20 73 253	123 143 539 614 279 145 240 237	3,067 2,722 3,014 3,439	(3) (3) (3) (3) (3)	
1901 1902 1903 1904 1905 1906 1907 1908	1,238 1,626 2,028 1,743 1,712 1,870 1,664 1,202 1,527 1,573 1,673	(3) (3) (3) (3) (3) (3) (3) (3)	370 143 249 373 487 583 753 711 891 615 880 918	(5) (5) (5) (5) (5) (5) 29 31 33 48	(3) (3) (3) (3) (3) (3) (3) (3) (4) (3)	49 170 51 211 172 171 119 284 278 238 217 407 381	91 122 93 68 60 117 84 47 34 41 167 70	55 29 50 72 33 20 73 253 137 194 244 228 320	123 143 539 614 279 145 240 237 180 186 320 522 453	3,067 2,722 3,014 3,439 3,197 2,498 3,260 3,609 3,863	(3) (3) (3) (3) (3) (3) (5) (8) (8) (3) (3)	(3) (3) (3) (3) (3)
1901. 1902. 1903. 1904. 1905. 1906. 1907. 1908. 1909. 1910. 1911. 1912. 1914. 1915. 1916. 1917.	1, 238 1, 626 2, 028 1, 743 1, 712 1, 870 1, 664 1, 202 1, 527 1, 573 1, 673 1, 291 1, 133 1, 405 1, 219	(3) (3) (4) (5) (5) (7) (8) (8) (8) (9) 111 222 27	370 143 249 373 487 583 753 711 891 615 880 679 918 989 989	(6) (5) (5) (5) (6) (6) 331 333 48 38 61 98 264	(8) (9) (9) (8) (8) (9) (8) (9) 445 295	49 170 51 211 172 171 119 284 278 238 217 407 381 331 631 726 796	91 122 93 68 60 117 84 47 34 41 167 70 153 174 92 87	55 290 72 33 20 73 253 137 194 228 320 531 1,181 868	123 143 539 614 279 145 240 237 180 320 522 453 230 571 824 891	3,067 2,722 3,014 3,439 3,197 2,498 3,260 3,609 3,863 3,563 4,784 5,864 5,473	(a) (a) (b) (c) (c) (c) (d) (d) (d) (d) (d) (d) (e) (e) (e) (e) (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	(3) (8) (3) (8) (8) (2) (3) (8) (8) (8) (8) (8) (9) (9) (11, 979 12, 571

from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural

from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

2 Not in operation.

3 Figures not available prior to 1915.

4 Prior to 1915 figures compiled from yearbooks of stockyard companies, except East St. Louis (1900 to 1906 from fourteenth annual report of Bureau of Animal Industry; 1907 to 1914 from Merchants' Exchange Annual Report); subsequent figures from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

6 Figures not evaleble prior to 1916.

Table 474.—Hogs: Monthly and yearly receipts at Chrcago, East St. Louis, Kansas City, and Omaha, combined, 1910–1922.

[000 omitted.[

Year.	Jan.	Feb.	Mar.	Apr.	May	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1910	1,179 1,270 1,908 1,640 1,479	1,612 1,315	934 1,516 1,350 1,170 1,182	788 1,304 1,242 1,154 1,001	1,521 1,381 1,257	1,138 1,487 1,218 1,328 1,167	892 1,200 1,090 1,129 927	892 976 846 1,095 830	687 970 763 1,081 826	1,231 1,093 1,153	1,533 1,207 1,288	1,131 1,451 1,386 1,655 1,640	11,614 15,761 15,096 15,265 13,696
5-year average	1,495	1,337	1,230	1,098	1,256	1,268	1,048	928	865	1,068	1, 241	1,453	14,286
1915	1,669 2,313 2,199 1,657 2,418	1, 950 1, 697 1, 888	1,516 1,367 1,963	1,154 1,205 1,697	1,234 1,366 1,320 1,464 1,644	1,222 1,283 1,125 1,246 1,680	1,037 1,090 1,083 1,356 1,314	921 1,221 757 1,047 829	803 954 545 932 913	848 1,407 902 1,376 1,129	1,996 1,286 1,794	2,066 2,091 1,461 2,207 2,049	15,418 18,341 14,947 18,627 18,641
5-year average	2;051	1,831	1,598	1,341	1,406	1,311	1,176	955	829	1,132	1,590	1,975	17, 195
1920 1921 1922	2,136 1,916 1,785	1,708	1,346	1,275	1,340	1,494	1,131 1,122 1,263	988 1,092 1,216	795 946 1,104	894 1,092 1,299	1,459	1,611 1,558 1,905	16, 101 16, 348 17, 256

¹ Prior to 1915 figures compiled from yearbooks of stockyard companies, subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics

Table 475.—Hogs: Yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1919–1922.

[000 omitted]

			-									
Market.		Rece	apts		L	ocal sl	auglite	r.	St		ind fee nents.	der
	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Albany, N Y Amarillo, Tex Atlanta, Ga Augustá, Ga Baltimore, Md	2 2 83 9 963	7 68 7	10	124 11		42 5 874	,	9	1	(2)	(2)	i
Billings, Mont. Birmingham, Ala. Boston, Mass. Buffalo, N. Y Chattanooga, Tenn.	10 24 22 1,352 14	24 14	8	2 8 1,475 13	(2) 24 730 13			663 13	(2) 1	(2) (2)	(2)	
Cheyenne, Wyo. Chicago, Ill. Gneunnati, Oluo Cleveland, Ohio. Columbia, S. C.	3 8,672 1,674 1,084 6	1.478	8, 148 1, 435	8,156 1,347	7,572 823 729 6	5,870 789 610 7	5, 977 898 688 4	6,323 669 750 9	14 1	1 3	2 4	9 2
Columbus, Ohio. Dallas, Tex. Dayton, Ohio. Denver, Colo. Detroit, Mich	45 108		52 131 334	71 139 395		14 56 76 310 360	14 52 83 311 269	6 71 99 3 67 2 79	32 8	30 5	5	26 (²)
Dublin, Ga East St. Louis, III. El Paso, Tex. Emeryville, Calıf. Erie, Pa	3,651 17 10 42	3,399 15 16 61	29	3,606 35 32	2, 231 9 10 16	(2) 1,678 11 16 15	1,289 14 21	(2) 1, 229 17 32	(2) 98 4	(2) 47 3	(2) 44 8	63 5
Evansville, Ind. Fort Worth, Tex. Fostoria, Ohio Indianapolis, Ind Jacksonville, Fla	588 79 2,936 78	243 413 99 2,897 100	382 107 2,695	510 105 2,267	1,434	1,359 72	73 277 11 1,377 47	26	10 55 3 41 1	24 1 17 2	52 2 21	34 34 17 (2)

¹Compiled from data of the reporting service of the Live Stock, Meats, and Wool Division. Bureau of

Table 475.—Hogs: Yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1919–1922—Continued.

Market		Rece	ipts.		I	ocal sl	aughte	er.	Sto	ocker a shipn	nd fee gents.	der
224.250	1919	1920	1921	1922	1919	1920	1921	1922	1919	1920	1921	1922
Jersey City, N. J. Kansas City, Mo. Knoxville, Tenn Lafayette, Ind. Lancaster, Pa.	468 3, 141 37 198 63	42 204	509 2, 205 14 166 44	57	2,600 3 37 13	2 40	1,713 9 44	18	244 1 3	200 (2) 5	94 1 7	162 2 5
Logansport, Ind Louisville, Ky. Marion, Ohio. Memphis, Tenn. Milwaukee, Wis.	16 750 155 11 585	23 428 217 30 554	26 382 95 8 489	10	173 10 2 534	156 13 1	180 16 4	29 6	$^{(2)}_{28}_{4}$ $^{(2)}_{(2)}$	(2) 11 2 4	1 8 2 1	(2) 19 3 2
Montgomery, Ala	171 727 298 3	109 615 311 7	97 42 436 324 1	95 52 517 346 1	67 271	82	26	3 45 125 287	22 28 (2) 2	15 18 4	9 3 2 (2) 1	12 1 1 3 (2)
New Orleans, La. New York, N Y. North Salt Lake, Utah. Ogden, Utah. Oklahoma, Okla.	63 677 53 104 470	63 755 34 78 341	50 902 56 177 371	1,091 84 198	39 67	755 25 47	40 902 36 47 331	34 1,091 42 47 449	3 4 13 43		1 2 2 13	1 1 5 9
Omaha, Nebr Orangeburg, S. C Pasco, Wash Peoria, III. Philadelphia, Pa	3, 179 2 7 390 345	2,708 2 354 481	2,665 2 424 485	·····i	(2) 153	(2) 135		2, 226 105 439	(2)	7 3	8	5
Pittsburgh, Pa Portland, Oreg Pueblo, Colo Richmond, Va St. Joseph, Mo	1,779 205 24 156 2,126	175 14 212	150 5 170	11 219	103 154	91 210	112 1	158 (2) 216	15 15 27	17 (2) (2) (2) 24	$^{(2)}_{(2)}_{9}$	17 (2) 11
St. Paul, Minn. San Antonio, Tex. Seattle, Wash. Sioux City, Ia Sioux Falls, S. Dak.	2, 190 25 126 2, 322 174	39 95	2, 209 70 134 1, 739 452	63 151	7 124	16 92	33 132	2,039 41 149 1,194 74	103 2 2 33 2	161 2 3 28 2	104 4 1 19 3	109 13 1 9 4
Spokane, Wash	60 30 232 72 494	47 35 264 102 382	33 59 148 113 369	48 65 140 132 570	42 31 53 71 469	32 34 86 101 356	21 58 24 112 348	32 65 14 129 527	$\begin{array}{c} 15 \\ (^2) \\ 2 \\ \dots \\ 20 \end{array}$	12 2 23	(2) 13	7 20
		42, 121	41, 101	44, 067	30, 018	26, 761	26, 335	28, 737	902	728	499	593

² Less than 500.

Table 476.—Hogs: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922.

[000 omitted.]

Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Buffalo, N. Y.: Receipts Local slaughter Chicago, Ill:	132 52	113 57	108 46	113 50	112 54	101 50	89 35	103 48	106 39	155 65	170 86	173 81	1,475 663
Receipts Local slaughter Stocker and feeder ship-	930 564	707 500	612 481	490 401	654 555	751 634	620 456	559 461	498 400	605 498	807 656	923 717	8, 156 6, 323
ments		(2)	(2)	1	1	1	(2)	(2)	(2)	(2)	(2)		3

Table 476.—Hogs: Monthly and yearly receipts, local slaughter and stocker and feeder shipments at public stockyards, 1922—Continued.

[000 omitted.]

[000 omitted.]													
Market.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Cincinnati, Ohio: Receipts Local slaughter. Stocker and feeder ship-	131 78	101 62	103 65	112 58	116 57	92 50	89 42	108 48	108 39	128 49	137 64	123 57	1,347 669
ments		(2)		(2)	1	1	(2)	(2)	ļ	(2)	(2)		. 2
Local slaughter	65 43	70 50	100 71	91 65	103 68	90 58	64 42	80 53	102 62	94 63	114 83	119 92	1,092 750
Denver, Colo.: Receipts Local slaughter	41 39	42 40	40 37	31 32	39 36	38 37	27 26	28 24	18 18	24 21	30 24	37 33	395 367
Stocker and feeder ship- ments	2	2	1										
East St Louis, Ill.: Receipts	365	290	286	1 263	337	1 298	2 216	3 241	254	2 296	362	398	26
Local slaughter Stocker and feeder ship-	90	73	90	79	118	101	68	82	138	110	128	152	3,606 1,229
ments Fort Worth, Tex:	4	9	11	8	14	8	3	1	1	1	1	2	63
Receipts Local slaughter Stocker and feeder ship-	50 43	69 57	70 53	46 38	45 37	32 29	23 20	24 20	29 24	39 27	37 26	46 41	510 416
ments Indianapolis, Ind :	1	10	7	5	2	2	(2)	(2)	1	2	1	1	34
Local slaughter Stocker and	156 121	119 85	135 94	144 92	175 127	197 141	165 112	195 121	198 113	$\frac{226}{148}$	267 183	290 191	2, 267 1, 528
feeder ship- ments Jersey City, N. J.:	1	1	1	1	2	4	1	2	1	1	1	1	17
Local slaughter	45 45	47 47	35 35	36 36	32 32	25 25	25 25	30 30	35 35	53 53	45 45	50 50	458 458
Kansas City, Mo.: Receipts	212	197	175	175	281	279	165	181	157	244	294	295	2,655 2,052
Local slaughter Stocker and feeder ship- ments	159 7	138	129	131	222	237	117	139	118	184	230	248	
Oklahoma, Okla.: Receipts	32	53	61	15 52	21 64	16 50	6 32	9 26	14 30	17 28	43	11 33	162 504
Local slaughter Stocker and feeder ship-	27	46	56	46	59	49	27	24	26	24	35	30	449
mentsOmaha, Nebr.:		(2)	2	2	1	(2)	(2)	(2)	1	(2)	1	(2)	8
ReceiptsLocal slaughter Stocker and feeder ship-	278 141	260 181	230 162	202 152	248 210	318 264	262 202	235 200	195 158	154 134	168 145	289 277	2,839 2,226
ments Pittsburgh, Pa.:		(2)	1	(2)		(2)	(2)	(2)		1	1	1	6
Receipts Local slaughter St. Joseph, Mo.:	271 49	190 36	174 38	175 34	188 43	151 35	148 32	187 33	297 35	311 51	288 61	310 60	2,690 507
ReceiptsLocal slaughter Stocker and feeder ship-	186 148	155 124	139 109	116 97	183 159	217 177	163 128	152 122	142 118	141 118	193 171	274 235	2,061 1,706
ments St. Paul, Minn.:	(2)	(2)	1	1	1	1	2	1	1	1	1	(2)	11
Receipts Local slaughter Stocker and feeder ship-	264 186	203 164	194 160	143 121	208 178	211 183	160 145	115 97	114 97	242 200	322 237	347 271	2, 523 2, 039
ments Sioux City, Iowa:	4	6	10	8	13	11	4	5	6	13	15	14	109
Receipts Local slaughter Stocker and	182 88	171 102	152 88	133 92	162 115	196 144	167 117	167 103	127 74	95 57	102 70	202 144	1,856 1,194
feeder ship- ments	1	1	1	1	(2)	1	1	1	(2)	(2)	2		9

Table 477.—Live hogs: Monthly and yearly exports, United States, 1909-1922.1

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec	Total
1909	1, 229	1, 901	2, 115	2,807	1,858	733	283	136	253	304	166	101	11,886
1910 1911 1912 1913 1914	340 67 2, 100 2, 429 1, 401	18	77 758 3,508 2,530 1,770		1,807 2,314	3,060 1,087 310	1,823 305 174	1, 230 271 130	25 662 617 101 286	41 437 868 123 211	29 182 216 173 526	170 1, 213 1, 710 72 113	13, 246 17, 478 12, 118
5-year average 2	1, 267	1, 219	1,729	1,818	1,542	1,435	855	432	338	336	225	656	11,852
1915	73 2, 116 3, 207 594 1, 757	4, 299 2, 520	9,300 2,136 919	1,977 2,827 2,028	1,540 1,267	1,260 931 1,634	2,388 559 747	683 403 393	379 671 105 310 1,117	346 1,416 403 838 1,893	1,170 205 379	613 2,437 752 788 2,792	28,301 15,588 10,308
5-year average	1,550	2,015	2,915	2, 258	1,554	1,356	1,006	408	516	979	1,208	1,476	17, 241
1920 1921 1922	2,093 10,643 10,841	10,369	13, 129	13,008	13,987	6,444 12,103 4,145	6,006	8,072	6,316	7,581	10,079	11,774	55, 250 123, 067 77, 757

 $^{^{\}rm 1}$ Compiled from reports of Foreign and Domestic Commerce, Department of Commerce. $^{\rm 2}$ 1910–1914

Table 478.—Hogs: Monthly average weight at Chicago, East St Louis, Kansas City, Omaha, and South St Paul, 1920 to 1922, and 5-year averages 1

Market.	Jan	Feb	Mar	Apr	May.	June.	July	Aug	Sept.	Oct.	Nov.	Dec.
Chicago.												
5-year average-	Lbs	Lbs	Lbs.	Lbs.	Lbs	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs	Lbs
1910-1914	218	223	230	234	238	239	241	243	236	226	217	220
1915-1919	212	219	224	227	228	230	237	241	238	219	209	208
Year—	200	200		210	217	240	252	250	0.00	~	~~.	
1920	239	239	244	248	245	243	252	258	258	247	234	230
1921 1922	234 231	234 236	241 244	242 246	239 214	241 247	250 259	259 268	262 265	243 243	225 231	226 234
East St. Louis	251	200	244	240	214	241	259	200	203	243	231	204
5-year average—												
1910-1914	175	176	177	179	183	138	181	183	190	182	181	172
1915-1919.	199	180	177	176	178	179	180	179	178	172	180	- 180
Year—												
1920	186	188	182	190	185	180	182	186	184	177	176	181
1921	211	210	200	198	198	201	204	206	196	196	205	207
1922	209	198	197	188	194	190	200	196	170	189	193	203
Kansas City:				1				İ				
5-year average— 1910-1914	203	206	208	210	206	202	199	199	199	194	194	195
1910-1914	203	203	208	202	200	199	199	199	183	181	187	195
Year—	202	203	200	202	201	199	199	191	100	TUT	101	190
1920	223	227	229	228	211	213	221	226	222	216	218	225
1921	236	236	233	229	224	211	223	225	216	222	216	223
1922	226	215	213	220	215	211	216	217	211	206	208	212
Omaha.	1				1							
5-year average—				1							i	
1910-1914	230	230	237	241	245	245	245	251	260	256	245	237
1915–1919	229	231	236	239	241	243	249	254	264	263	249	232
Year— 1920	242	242	250	251	247	0.77	256	263	272	271	260	248
1921	248	216	252	260	259	247 255	260	274	288	271	244	232
1922	235	238	247	255	257	258	267	280	286	276	249	238
South St. Paul: 2	200	200	2721	200	201	200	201	200	200	270	2/13	200
1921	219	227	229	231	238	253	258	264	246	232	217	224
1922	223	227	227	239	248	263	273	264	241	219	213	211
				1				-				

Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics. (East St. Louis, 1920, from Chicago Drovers' Journal Yearbook.)
 South St. Paul not reporting previous to 1921

Table 479.—Hogs: Average live and dressed weight percentage per animal slaughtered in United States, 1921 and 1922.

		Cattle				Calve	es.			Hogs			She	ep an	ıd lar	nbs.
Month.	we	ge live ight inds).	dre wei of l	cent- ge ssed ight ive ght.	Avera we:	gelive ight nds).	dre wei of l	cent- ge ssed ght ive ght.	Avera	gelive ght nds)	dres wer	eent- ge ssed ght ive ght.	Ave li wei	rage ve ght nds)	dres wei of l	ent- ge ssed ght ive ght.
	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922
JanuaryFebruaryMarchApril	992 7 1,006.0	1,019.7 1,004.8 1,012.8 1,009.3	53 54 55 53	54 55	169.8 156.2 143.6 136.8	156.7 142.7	60 60	56 57 57 58	227.3 227.9 227.7 225.6	224. 3 222. 2 222. 9 224. 7	77	77	88.1 88.6	84. 2 85. 0 85. 4 83. 0	46 47	47
June July August	1,010.0 994.8 1,005.2	985.5 972.8	55 55	56 55 54	148. 2 160 9 174. 5 193. 8	156.4	57 57 58 56	57 56 57 57	220. 0 223. 6 245. 7 234. 0	226.5 231.3 239.4 241.5	76 76	77 77	72.6 68.0	77.8 71.9 72.7 76.0	48 49	49
September October November December	982.4 999.0 1,002.4 1,008.3	957.8	55 53 53 53	52	206. 5 199. 2 189. 0 174. 3	197. 2 188. 6	54 54 53 58	56 54 56 58	228. 4 223. 2 215. 6 220. 5	234. 2 219. 5 214. 8 220. 1	75	76 76	79.0 81.2	77. 7 80. 2 83. 4 85. 8	48 48	48
Average	999.2	981.1	54	54	170. 1	169.7	57	56	226.3	226.0	76	76	79.7	80	48	48

¹ Reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.

Table 480.—Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921

BY MARKETS-STRAIGHT SHIPMENTS.1

	Number of			Crippled			Dead.	
Market.	animals upon which figures are based.	Average weight of animals	Percent- age of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percent- age of total number shipped.	Percent- age of total weight shipped.	Average weight of animals.
Buffalo Chicago Cleveland East St. Louis	23, 305 317, 621 8, 895 50, 176	Pounds 195 250 203 207	0.91 .64 .57	0.93 .63 .55 .40	Pounds. 199 247 197 222	0.31 .26 .21 .19	0. 25 . 25 . 22 . 24	Pounds 157 246 208 255
Kansas City	15,072	239 229 278 190	.35 .65 .51 .44	.33 .69 .45 .46	228 240 245 196	.15 .14 .12 .23	.16 .14 .12 .22	266 235 272 181
Sioux City	13,582 15,117 21,293 12,517	241 242 238 238	.46 .41 .24 .22	.47 .41 .25 .24	243 243 250 255	.19 .17 .13 .28	.17 .15 .13 .33	209 216 237 285
	В	Y MARK	ETS-MIX	KED SHI	PMENTS.	2		
Buffalo	80, 437 19, 577 25, 661	198 249 198	1.10 .90 .50	1.14 .86 .46	203 243 180	0.53 .41 .20	0.44 .42 .18	165 252 185
East St. Louis Kansas City Milwaukee	5,639 14,340 14,848	206 245 225	. 46 . 26 . 50	.40 .27 .47	179 255 211	.37 .33 .24	.33 .34 .23	183 254 218
Omaha Pittsburgh Sioux Falls	4,884 63,998 1,159	275 189 235	.47 .63 .43	.44 .60 .51	258 180 280	. 20 . 25 . 26	.23 .30 .21	320 178 183
St. Joseph St. Paul	5, 785 50, 216	245 238	. 26 . 28	.28 .26	269 224	$\frac{.22}{.17}$.18 .17	202 242

Table 480.—Hogs: Percentage crippled and percentage dead in shipments by cooperative associations, 1921—Continued.

BY DISTANCE-STRAIGHT SHIPMENTS.1

	Number			Crippled			Dead.	
Market.	of animals upon which figures are based.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.	Percentage of total number shipped.	Percentage of total weight shipped.	Average weight of animals.
Less than 100 miles 100–150 miles 150–200 miles 200–250 miles	97, 439 124, 791 120, 523 118, 845	Pounds. 242 231 235 230	0.33 .40 .41 .44	0.31 .43 .40 .45	Pounds 229 238 232 234	0.12 .20 .24 .18	0.11 .22 .18 .16	Pounds. 235 254 210 210
250–300 miles	4,764	219	.21	.18	183	.21	.20	209
300–350 miles	37,400	254	.89	.83	236	.34	.34	255
350–400 miles	78,293	250	.74	.72	244	.38	.41	270
400–450 miles	43,517	247	.82	.79	234	.33	.31	236
450–500 miles	12,790	241	.86	.86	240	.18	.17	230
500–550 miles	2,997	238	.60	.79	314	.37	.31	203
550–600 miles	2,751	237	1.27	1.38	258	.29	.33	274
	В	Y DISTA	NCE—MI	XED SH	IPMENTS	3,2		
Less than 100 miles 100–150 m les 150–200 miles 200–250 miles 250–300 miles 300–350 miles 350–400 miles 400–450 miles 450–500 miles	72,980 52,465 18,567 42,120 1,752 18,684 62,016 25,166 3,688	232 224 237 190 213 200 204 195 203	0.37 .47 .34 .39 .45 1.16 1.11 1.02 1.06	0.35 .45 .36 .39 .41 1.07 1.15 1.02 1.03	217 209 250 185 194 184 210 196 198	0. 18 . 27 . 36 . 20 . 11 . 35 . 44 . 49 . 32	0. 18 . 28 . 40 . 20 . 18 . 31 . 40 . 33 . 31	229 228 263 184 345 178 186 166
	ВУ	MONTE	IS—STRA	IGHT SI	HIPMENT	'S.1		
January	76, 266	234	0.69	0.73	248	0. 19	0. 18	222
February	64, 486	235	.65	.67	246	. 17	. 16	222
March	45, 055	244	.57	.58	245	. 21	. 20	241
April.	54, 188	238	.46	.47	244	. 24	. 25	244
May.	46, 721	234	.44	.43	233	. 43	. 53	290
June.	63, 673	237	.36	.35	236	. 23	. 28	284
July	43, 602	247	.35	.31	220	.17	.17	255
	43, 819	260	.41	.41	254	.14	.12	215
	42, 318	254	.36	.34	244	.27	.23	216
October	50, 105	230	.38	.36	220	.23	.22	226
November	54, 259	209	.57	.61	222	.23	.21	191
December	59, 715	205	.73	.77	227	.17	.16	211
	В	Y MONT	HS-MIX	ED SHII	MENTS 2			
January	28, 629	226	0.98	0.98	226	0.38	0.27	159
February	22, 646	223	.87	.81	207	.25	.19	172
March	21, 868	219	.68	.67	217	.47	.41	190
April	25, 879	205	.57	. 55	200	.27	.33	253
May	28, 524	207	.60	. 55	190	.42	.41	203
June	26, 328	211	.54	. 49	190	.39	.40	216
July	1	222 214 198	.56 .61 .53	.47 .58 .55	185 203 203	. 25 . 28 . 33	.28 .28 .31	253 213 188
October	32, 694	207	.51	. 49	197	.33	.31	194
November	29, 705	217	.57	. 53	200	.21	.15	163
December	23, 452	224	.92	. 88	212	.27	.21	169

¹ Straight shipments contain but one species of live stool-

Table 481.—Hogs: Percentage of shrinkage in shipments by cooperative associations,

BY DISTANCE.

	Straight sl	nipments.2	Mixed sh	ipments.
Distance.	Number of animals upon which figures are based.	Shrink- age per- centage of weight shipped.	Number of animals upon which figures are based.	Shrink- age per- centage of weight shipped.
Less than 100 miles	86, 060	1. 48	64,327	1. 91
100–150 miles	112, 419	1. 10	38,039	2. 23
150–200 miles	103, 605	1. 25	14,860	1. 91
200–250 miles	109, 438	1. 24	36,591	2. 76
250–300 miles	4, 612	2. 10	1,692	2. 89
300–350 miles	36, 639	2. 11	18,629	3. 47
350-400 mles 400-450 miles 450-500 miles 500-550 miles 550-600 miles	56, 156 41, 021 11, 787 2, 778 2, 751	1.80 1.71 1.62 2.13 3.07	54, 299 24, 004 23, 557 173	4.00 3.62 1.94 3.60
BY MONTHS.				
January	67,822	1.14	25,710	1.50
February	57,056	1.03	19,680	0.72
March	40,047	1.31	18,948	2.29
April	48,419	1.39	23,069	2. 44
May	40,918	1.49	25,500	1. 78
June	55,399	1.77	22,860	2. 57
July	38,485	1.40	11,840	2.93
	37,594	1.90	16,031	3.12
	38,132	1.86	21,862	2.43
October	45,077	1.68	27,313	3.14
	47,464	1.34	25,638	1.89
	51,101	1.02	18,970	2.09

Shrinkage represents the difference between the shipping-point weight and the terminal weight, including the weight of all crippled and dead. Hence the shrinkage figure is over and above the direct losses due to crippled and dead.
 Straight shipments contain but one species of live stock.
 Mixed shipments contain more than one species of live stock.

Table 482 — Hogs: Corn and hog ratios, 1910-1922.

[U. S. average based on average farm price per 100 pounds of live hogs, divided by average farm price per bushel of corn.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Average.
1910	12. 2	12.0	13.6	14.4	13.3	12.9	12. 2	11.7	13. 0	14. 2	15. 1	14.9	13.3
	15. 3	14.4	13.7	12.1	10.7	9.8	9. 4	9.9	9. 9	9. 3	9. 3	9.2	11.1
	9. 1	8.8	8.6	9.0	8.4	8.1	8. 3	9.1	10. 1	12. 0	13. 2	14.1	9.9
	13. 6	13.9	14.4	14.4	12.7	12.3	12. 1	11.1	10. 2	10. 4	10. 5	10.3	12.2
1914	10.8	11.3	11. 2	10.9	10.3	9.9	10.1	10.3	10.3	10.0	10.4	10.2	10.5
1915	9.5	8.6	8. 4	8.5	8.7	8.7	8.7	8.5	9.2	10.8	10.6	10.1	9.2
1916	9.8	10.5	11. 4	11.5	11.4	11.0	10.9	10.6	11.1	10.4	10.1	9.8	10.7
1917	9.9	10.5	11. 5	10.3	8.8	8.3	7.4	7.7	9.0	10.1	11.2	12.0	9.7
1918.	11. 2	10.3	10.1	10.2	10.3	10.0	9.9	10.1	10.8	11. 0	11.5	11.3	10.6
1919.	11. 1	11.3	11.2	11.1	10.8	10.2	10.5	10.2	9.3	9. 7	9.2	9.2	10.3
1920.	9. 3	9.2	8.9	8.4	7.6	7.1	7.8	8.5	10.1	13. 0	15.0	13.2	9.8
1921.	13. 5	13.5	14.3	13.0	12.5	11.6	13.1	14.8	14.0	15. 9	16.0	15.2	14.0
Average 1910-1921 . 1922	11.3	11.2	11.4	11.2	10.5	10.0	10.0	10.2	10.6	11. 4	11.8	11.6	10.9

TABLE 483.—Pork, fresh, chilled, and frozen: Yearly exports and imports, by principal countries.

[000 omitted] EXPORTS.

Country.	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921		
Exported by— Argentina Australia¹ Belgium Brazil British South Africa Canada Denmark France Netherlands New Zealand Russia Sweden United States.	1,641 3,936 15 3,461 1,187 64,465 1,222 5,988 2,232	2,332 48 267 14,316 1,296 55,424 128 9,091 14,125	1,927 14 876 4,342 1,492 79,111 282 8,276 4,780	19 17,045 2,682 1,286 109,901 165 5,869 7,662	33,443 105 97,887 713 4,453	55 12,904 29,919 105 34,694 688 1,011 20,461	12,067 15,983 720 6,475 1,655	55 4 35,783 79 338 (2) 69	371 (2) 1,852 122 2,379 622 156 8,593 2	163 12 3,395 250 1,576 4,757 396 3,427	1,436 2,756 3 16 1,092 1,242 39,593		
IMPORTS.													
Imported by— Austria-Hungary Belgium Canada Cuba Denmark France Germany Netherlands Sweden Switzerland United Kingdom United States	3,885 459 645 107 1,5187 3,129 49 14,606 50,728	6, 964 38 496 1, 830 10, 794 29, 123 2, 321 1 22, 172 35, 027	27 380 123 1,794 3,208 35,875 101 4 12,606	64 186 4,654 2,189 47 2 7,545	9,036 216 714 91 60 11 55 30,162 3,498	2,184 2 43 4 32,847	9,848 6 902 1 18,015	10,222 1 12 2 11,150	564 6, 605 10 15 67 15, 220	274 11,977 177 6,803 14,445 189 209 4,764	33, 701 5, 875 248 6, 166 65, 779		

Table 484.—Pork: Yearly exports, United States, 1910 to 1921.2 [000 omitted.]

		Ye	ar endin	g June 3	0			Calendar	years—	
Country.	1910	1911	1912	1913	1914	1915	1918	1919	1920	1921
Exported to-										
Belgium Denmark France Germany	7,778 116 217 756	12, 915 165 2, 012 1, 862	20, 017 659 10, 155 2, 328	15, 559 56 3, 039 4, 582	9,454 5 606 1,006	12,352 31,245 54,165 639	73, 323 131, 882	123, 247 44, 718 285, 269 61, 446	42,752 7,635 53,290 81,851	29, 329 5, 130 13, 703 68, 406
Italy Netherlands Norway Sweden	2,114 1,317 1,134 152	6, 707 4, 750 5, 009 2, 382	8, 443 7, 650 5, 353 2, 751	11,839 7,919 4,502 1,920	9,748 1,993 6,011 3,478	1,694 11,422 11,729 19,557	105,773	113,796 122,255 33,810 55,398	22, 134 64, 674 7, 624 17, 570	9, 171 31, 374 14, 051 7, 294
United King- dom	276, 528 12, 568 2, 864 1, 555	263, 777 13, 902 3, 233 1, 049	336, 498 21, 678 3, 420 1, 495	290, 739 23, 756 3, 538 1, 196	288, 121 28, 158 3, 529 556	393, 543 20, 131 2, 619 453	1, 273, 267 51, 594 382 997	852, 857 72, 052 668 1, 031	483, 329 47, 048 915 1, 597	425, 824 58, 921 1, 432 1, 572
Newfoundland and Labrador. Cuba Other countries.	4,672 16,004 16,407	5,669 17,588 24,460	6,979 20,070 29,882	6, 129 21, 928 24, 192	8,391 23,706 26,369	5, 567 24, 291 15, 221	7, 192 32, 911 16, 571	5,742 32,951 48,536	5, 843 42, 389 22, 088	5, 421 39, 806 26, 322
Total	344, 182	365, 480	477, 378	420, 894	411, 131	604, 628	1, 695, 573	1, 853, 776	900, 739	737, 756

Year beginning July 1, subsequent to 1913.
 Less than 500.
 Intercolonial trade excluded.

⁴ Unclassified.
5 Austria only.

Table 485.—Pork: Monthly and yearly exports of pork and pork products combined, United States, 1910–1922.

[000 omitted]

Year.	January.	Febru- ary.	March.	April.	Мау	June.	July.
1910 1911 1912 1913 1914	75, 401 75, 067 93, 601 91, 808 101, 683	66, 675 79, 351 102, 591 106, 956 73, 958	60, 599 85, 076 104, 742 96, 771 70, 046	34, 227 87, 486 85, 895 82, 836 60, 783	42, 229 100, 768 92, 609 83, 993 66, 067	50, 415 96, 562 65, 800 76, 476 67, 436	60, 183 83, 514 72, 295 81, 962 53, 086
5-year average	87, 512	85, 906	83, 447	70, 245	77, 133	71, 338	70, 208
1915 1916 1917 1918 1918	106, 325 133, 222 199, 397 92, 864 197, 965	118, 657 162, 376 122, 571 114, 347 236, 421	169, 112 119, 963 167, 861 308, 011 341, 295	113, 501 133, 534 137, 772 285, 763 348, 040	89, 263 148, 245 127, 193 281, 335 180, 890	121, 772 112, 361 103, 093 169, 305 400, 393	95, 029 76, 567 45, 502 252, 767 240, 961
5-year average	145, 954	150, 874	221, 248	203, 722	165, 385	181, 385	142, 165
1920	137, 438 161, 695 127, 612	147, 133 151, 361 138, 047	185, 348 143, 085 124, 411	87, 591 118, 192 90, 125	134, 208 111, 040 99, 441	137, 330 128, 941 119, 854	94, 117 171, 555 133, 427
Year		August	Septem- ber	October.	Novem- ber	Decem- ber.	Total.
1910		67, 351 82, 387 77, 105 82, 726 54, 215	56, 685 107, 082 77, 964 73, 628 59, 388	49, 280 79, 551 64, 987 77, 309 73, 414	50, 136 77, 114 65, 696 79, 717 73, 756	71, 512 97, 067 79, 611 86, 597 73, 691	684, 693 1,051,025 982,896 1,020,779 827,523
5-year average		72, 757	74,949	68, 908	69, 284	81,696	913, 383
1915 1916 1917 1918 1919	90, 128 93, 101 71, 295 170, 647 179, 503	100, 207 106, 329 79, 460 114, 555 117, 762	113, 464 95, 287 54, 037 132, 237 117, 943	107, 744 113, 579 99, 189 123, 266 131, 663	143, 262 156, 723 90, 333 205, 601 144, 799	1, 368, 464 1, 451, 287 1, 297, 703 2, 250, 698 2, 637, 635	
5-year average		120, 935	103, 663	102, 594	115, 088	148, 144	1, 801, 157
1920 1921 1922		67, 701 174, 916 127, 668	102, 470 173, 989 120, 124	123, 102 99, 186 125, 715	132, 698 90, 240 124, 574	187, 091 106, 449 156, 067	1,536,227 1,630,649 1,487,065

 ¹ These figures include exports of fresh, canned, and pickled pork, cured hams and shoulders, bacon, lard, and neutral lard.
 ² Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

Table 486.—Pork: Monthy and yearly exports of principal pork products, United States, 1910-1922.

[000 omitted.] BACON.

Year.	Jan.	Feb.	Mar.	Apr.	Мау.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	
1910	16, 343 12, 876 18, 152 19, 819 20, 814	20, 325	11,038 17,468 20,880	16, 091 17, 934 17, 051	17,008 16,271	19, 110 10, 559 13, 812	17,006 16,518 16,555	18, 857 18, 688 19, 551	25, 038 15, 360 16, 358	16, 368 13, 681 17, 968	8,646 15,864 13,870 16,688 18,825	18, 104 16, 567 19, 367	128, 270 198, 112 192, 029 212, 797 184, 268	
5 yr. av.	17,601	15, 404	14,752	14,004	12,970	12, 563	14,376	17,049	17, 399	14, 258	14, 779	17, 939	183, 694	
1915	27, 156 50, 087 91, 812 53, 851 102, 679	50, 904	67, 502 155, 604	53, 444 57, 310 127, 400	58, 343 60, 676 142, 012	38, 023 50, 606 87, 294	30,074 19,462 119,894	43, 954 28, 311 68, 858	49, 223 35, 501 41, 540	41, 284 29, 363 58, 132	43, 571 72, 862	55, 472 73, 932 42, 021 126, 437 58, 983	524, 138 592, 851 578, 128 1, 104, 788 1, 190, 297	
5 yr. av.	65, 117	63, 745	96, 582	84, 332	72, 459	78, 368	65, 122	52, 571	45, 369	47, 730	55, 276	71,369	798, 040	
1920	77, 501 43, 203 26, 108	75, 891 31, 637 30, 794		24, 356 32, 852 20, 490	38, 464	35, 012	48, 172	45, 340	44,718	23,601	57, 931 15, 642 26, 171	21, 366	636, 676 415, 356 341, 839	
	922 26, 108 30, 794 31, 180 20, 490 19, 070 24, 067 32, 584 32, 591 30, 448 28, 850 26, 171 39, 486 341, 839 LARD.													
1910	39, 686 40, 688 45, 465 44, 281 56, 432	38, 878 47, 595 54, 143 61, 211 35, 916	32, 574 55, 043 54, 797 49, 226 38, 001	17, 213 48, 726 40, 179 42, 114 29, 890	44, 900 48, 788	45, 284 32, 364 41, 961	35, 446 32, 536 39, 567	34, 912 33, 142 41, 025	53, 670 43, 273 37, 383	43, 003 34, 746 39, 466	27, 856 40, 830 36, 057 42, 661 42, 053	43, 491 48, 497	368, 832 552, 430 495, 093 536, 180 438, 016	
5 yr. av.	45, 311	47, 549	45, 928	35, 624	41, 978	37, 421	32, 839	33, 708	37, 970	38, 016	37, 891	43, 875	478, 110	
1915	55, 520 34, 040 65, 091 20, 706 37, 850	56, 133 41, 262 39, 558 31, 683 68, 973	67, 259 37, 146 59, 080 68, 722 97, 239	38, 336 39, 017 45, 602 53, 885 86, 556	48, 773 30, 621 79, 751	30, 834 45, 862 24, 256 29, 248 114, 329	26,088 9,364 68,600	22, 891 23, 553 51, 921	32, 707 22, 145 33, 268	21, 242 9, 639 46, 025	30, 776 31, 470 30, 742 27, 285 42, 106	46, 404 46, 162 13, 070 37, 724 63, 646	451, 286 426, 660 372, 721 548, 818 760, 902	
5 yr. av.	42,641	47, 522	65, 889	52,679	47, 288	48, 906	38, 760	34, 509	30, 771	29, 236	32, 476	41, 401	512,078	

47, 061 31, 021 46, 326 54, 174 57, 316 83, 329 87, 411 104741 56, 886 51, 855 66, 058 68, 907 61, 120 66, 332 62, 321

90, 080 64, 542 78, 596

¹ Compiled from reports of Bureau of Foreign and Domestic Commerce, Department of Commerce.

LARD.

. Table 487.—Lord, pure: Monthly and yearly average price, per 100 pounds, Chicago, 1905 to 1922.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July	Aug	Sept.	Oct.	Nov	Dec.	Aver- age.
1905	\$6.73 7.41 9.29 7.70 9.57	7.55 9.70	8.03	8. 59 8. 68 8. 19	8. 49 8. 95 8. 42	8.74 8 69 8.66	8. 93 8. 91 9. 30	8.66 8.89 9.33	7.79 8 98 9.94	9.33 8.86 9.62	9.36 8.16 9.31		
5 year av	8. 15	8.14	8.34	8. 58	8.73	8.97	9. 15	9 25	9. 29	9. 42	9.37	9.32	8. 89
1910	12. 43 10. 32 9. 24 9. 88 10. 89	9.50 8.90 10.50	8.83 9.37 10.66	7. 93 10 06 11. 00	8.03 10.77 11.05	8. 17 10. 87 16 99	8.30 10 57 11.53	8 97 10.73 11.28	9.32 11.08 11.15	8.85 11.47	9.07 11.15 10.63	9.00 10.46 10.68	12. 23 8. 86 10. 39 10. 83 10. 24
5 year av	10. 55	10. 41	10.69	10.31	10.55	10 47	10.47	10.50	10.73	10.81	10. 51	10.10	10.51
1915	10. 69 10. 32 15. 66 24. 39 23. 46	9. 99 17. 00 26. 05	10.79 19.30	11.77 21.00 25.44	12.80 22.30 24.53	21. 41 24. 50	13. 12 20. 77 26. 09	13.44 22.40 26.78	14. 47 24. 03 26. 98	24 29 26 66	16.91 27.13 26.69	25.46 25.31	21.73 25.79
5 year av	16.90	17.68	18.67	19.65	20. 58	20.46	20. 56	20.11	19.96	20.55	21.11	20.00	19.69
1920	23. 52 16. 03 11. 19	14.91	14.48	13.07	22. 75 11. 88 13. 15	12.63	13.94	13.65	13.51	12, 16	11.62	11.25	13.21

¹ Prior to February, 1920, prices compiled from the National Provisioner; subsequent figures compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

Table 488.—Lard: Cold storage holdings of lard, 1916 to 1922 1

[000 ommitted]

Year.	Jan. 1.	Feb. 1.	Mar. 1.	Apr. 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept.1.	Oct. 1	Nov.1.	Dec 1
1916. 1917. 1918. 1919. 1920. 1921. 1922.	80, 977 54, 539 104, 274 62, 614	86, 208 59, 310 138, 353 97, 649 83, 549	88, 460 65, 355 125, 410 111, 975 117, 690	65, 179 89, 854 112, 469 132, 993 128, 614	61,640 103,373 112,409 141,819 152,428	72,365 106,194 83,096 152,307 181,992	95, 197 107, 871 92, 132 193, 316 204, 301	112, 249 102, 411 100, 478 191, 531 194, 490	102, 172 104, 668 87, 947 170, 774 149, 886	69, 929 90, 398 76, 456 109, 258 85, 115	37,095 76,124 66,036 47,329 48,850	58, 950 44, 367 81, 676 49, 147 36, 683 42, 001 32, 506

¹ Compiled from reports of Division of Statistical and Historical Research, Bureau of Agricultural Economics.

MEATS AND LARD.

Table 489.—Fresh and smoked meats: Monthly average wholesale price per 100 pounds, Chicago, and New York, 1922.

CHICAGO.

			-			-							
Class of meat.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Beef:													
Steer—				*** **				210.00	227 00				
Choice Good	\$16.55	\$11.86	\$14.93	\$15.18 14.42	\$14.99	\$15.25	\$16.44	\$16.33	\$17.02	16 10	\$17.76	\$17 82	\$16.22
Medium			13.04	13.39	13 50	13.56	14.11	13.94	14. 28	14 49	13 43		13.08
Common		10.06	11.06	11.50				10 12		10.18		10 58	10.96
Cow													
Good	11 50										10 50		
Medium Common	10.50 8 50		9.84	9.90 8.82			11.65 9.85			9.60 7.60			
Bull, common		7.66		7 36	8. 22		8.09						
Veal:		1					0.00			0.00		1	11.20
Choice	16.16						16.68	18.56					
Good	14 78							16 54					
Medium Common	13. 45 11. 00			12 32 9 12			13 48 10 57	13.80 10 98					
Lamb and mutton	11.00	10.00	11.11	3 12	10.30	11.02	10 37	10 33	11. 12	10 02	0.00	3.12	10.01
Lamb—	1	1						İ					
Choice	25.20						27.47	26.46		26.25			
Good	24. 01 22 07				28.54 27 02			24 50 22,00		24 61			
Medium Common	19 57		23.62	24. 15		18 88	18 18	17 28		22.44 18.12			
Mutton-	10 0.	20.20	20.02		~2.01	10 00	10 10	10	1. 20	10.12	10 01	10.10	20.25
Good	13.25							14.50					
, Medium	11.42												
Common	8.80	11.35	12.76	15 21	13 76	9.02	7.00	7.00	7.75	8.02	8.46	8.50	9.80
Fresh pork cuts: Hams, 12-16	l	1		l	1								1
pounds average	17 49	23.38	25 00	25 62	26 62	26 50	24.95	19.90	18.06	17.90	17.27	17, 56	21.69
Loins—													
8-10 pounds	15.95		19 82	23 29	23 37	19.40	23.72	25 54					
10–12 pounds. 12–14 pounds	14.92 13.92				21.84 19.96			22 96 19.45		24.18 21.95	17.27 16.44		
14-16 pounds	12.90										15. 59	13 20	
16 pounds						1000	100	1	20. 2.	200 20	10.00	10 20	10.10
and over	12 38	12 66	15 66	17 41	17.31	14 64	15 19	14.20	16.24	17.20	14 61	12.42	14.99
Shoulders— Skinned	11 86	12.86	15 02	15 01	14.29	13 72	14.18	14.01	14.18	14 90	13.38	12.80	13 80
Picnics, 4-6	11 00	12.00	13 02	10 01	14.29	15 /2	14.10	14.01	14.10	14.26	19.90	12.80	15 50
pounds	11.28	12.60	13.91	13.85	13.91	14.50	15.25	13.82	12.72	12.98	12 67	12.16	13 30
Picnics, 6–8													
pounds	10 75	12 06	13 25	13.35	13.41	13.60	14.42	12 93	11.48	11.82	11.77	11.52	12 53
Butts, Boston	13.73	14 86	16.80	17.34	16.73	15.96	16.75	16 88	17.80	17.75	16 08	13.55	16 19
Spare 11bs	11.06										11.65		
Cured pork cuts.			1	1									
Hams, smoked	l	İ			1		İ					1	
(14-16 pounds average)	21.70	25.56	28.80	28 88	29.15	29 12	28. 12	24.09	22 19	21 66	20.40	19 62	24,94
Shoulders, pic-	21.70	20.00	20.00	20 00	20.10	25 12	20.12	24.09	22 19	21 00	20.40	19 02	24.94
nics, smoked	16.29		17.55	16.88	17, 18	18.00	18.25	16 33	14 81	15 81	15.65	15 25	16.54
Bacon, breakfast.		22.88	26.65	26 56	26 25	26 41	26.56	26.65	27.62	29 46	27. 20	23.88	25.84
Lard (tieices)	11.19	12.59	13.50	12.62	13.15	13. 22	13 06	13.30	13 00	14 12	13. 78	13.31	13.07
Lard compound (tierces)	11.00	12.10	14 13	13.44	13.38	13.35	13 35	12.90	11 78	11.79	12 28	12,62	12.68
(1	1	1 10	10.22	1 20.00	10.00	10 00	12. 00	12.70	12.75	12 20	12.02	12.00

 $^{^{\}rm 1}$ Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

MEATS AND LARD-Continued.

Table 489.—Fresh and smoked meats: Monthly average wholesale price per 100 pounds, Chicago, and New York, 1922—Continued.

NEW YORK.

Class of meat.	Jan.	Feb	Mar.	Apr.	Мау.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age.
Beef:													
Steer—			01 A A7	@14 OF	01F 00	915 50							
Choice Good	\$14 06	\$13 12	13 69	13 60	919 03	219.00	\$17 18	\$17 52	\$18 65	\$19 48	\$18 73	\$18 95	\$16.99
Medium	12 76	11 70	12 82	12 60	13.58	12 06	10.01	12 98	14 20	10 70	10 00		15 06
Common		10.74	11.94	11.94	12 91	12 00	15 34	9.86			12.20		
Cow-	11	10	11.01	11.01	12 31	12.00	12.04	9.00	10 90	9. 58	8 65	10 22	11 03
Good	11.17	10.55	10.98	10.75	11.59	12.18	13. 13	11.60	13.50	11 17	9 80	10 65	11,42
Medium	10.38		9 75	9.94				9.54		9 68			
Common	9.30	9.34	9 25	9.38	9.53					8.02			
Bull, common	8.53	8.34	8.25	8 31	9.28				7 09	6 64			
Veal:										0 01	0.00	0	
Choice			19.76	16.22	17.10		17.18			19 71	17 72	18 58	18.38
Good	19 20	18 92	16 04		14.20				18.19	15 98		15.45	15.98
Medium		16.80	14 36	12.50						12.32			
_ Common	15.28	14.04	12 22	10.50	10.78	10.99	10.48	12 10	11.30	9 56	9.32	10.74	11.44
Lamb and mutton													
Lamb—	07 50	00 10	00.00	00.70	00 00	0. 50	20.00	00.04					
Choice	27.53 25.90		28.86	30.10	30 30	24. 72	26 86	26 61	28 45	26.48			
Good Medium	24 15		25.58	28.38 26.00	27.32	21 82 18 72	23.30	24 04	25 70	24 52			
Common	21.90		23.08	23.75	24 86 22 74	14 98	21.15 16.42		23 60 19.27				
Mutton-	21.90	21.40	20.00	23. 13	22 14	14 98	10.42	19 32	19.27	17.75	19 16	20 12	20 00
Good	16.25	16.30	18 70	18 72	20.08	14.95	16.45	15 15	15 18	14 82	14 26	15.48	16.36
Medium	15 20		16.40		17. 16				13 00	12 32	12 37	12 92	
Common	12.32		14.80		15 16		10.38			9 05			
Fresh pork cuts:	12.02	20. 20	11.00	11.00	10 10	0 00	10.00	3.00	3 00	<i>3</i> 00	0 02	0 01	11 70
Hams, 12-16			i	- 1					1				
pounds average.	21 50	23, 94	26.90	25, 75	27, 30	27 62	25. 19	21.95	19.75	20 50	18 30	19.50	23 18
Loins—		1											
8-10 pounds.	17.10		21.14	23 65	23.76	21 78	22 08	25 14	28 59	26 98		16.84	22 22
10-12 pounds.	15.79	17.45	20.06	22 65	22 54	20 72	20 75						20.95
12-14 pounds	14.61	16.45	18.98	21 65	21.74	19.32	19 54		23 48	22 80			
14-16 pounds.	13.35	15. 19	17.98	20.65	20.74	18 08	18 44	17 98	19 55	19 80	18 08	14.80	17.89
16 pounds		** 00											
and over	12.99	14.00	17.06	19 65	19.74	16 85	17. 13	15.79	17.05	18 37	17.19	13.95	16 65
Shoulders—	12.81	13.98	10 54	15 90	15 50	1 7 00	15 50	75 54	75 04	7 5 00	75 04	10 50	15 00
Skinned Picnics, 6–8	12. 81	13.98	16.54	19 90	15.50	15.02	19. 90	15.54	15.84	15 69	15 24	13.56	15 09
pounds	11.75	13.30	15.18	14.90	14. 50	14 55	15. 23	14.92	13.74	13 43	13 00	11.38	13,83
Butts, Boston	11.10	13.30	10.10	14. 90	14.00	14 00	10. 20	14. 92	10.74	19 49	19 00	11.00	10.00
style	15 05	16.38	18.86	18.65	17.98	17.42	17. 14	18.26	18 62	19 10	19.19	16 08	17 73
Spare ribs		12.75	12 50			11 31	11 19	10 10	11.75				
Cured pork cuts.	10.00		00		00	0-						11.00	
Hams, smoked	- 1	1		-	j	1		i	- 1				
(10-12 pounds	1			i			1	1	- 1				
average)	21.44	26 88	32.95	33 12	31. 20	30 38	31 12	26 40	21.94	22 62	22 00	20.88	26 74
Shoulders, pic-	J	- 1	- 1	- 1	- 1	1	1		i				
nics, smoked	15 19	15.75	17 35	15 94	17.10	17.62	17.38	16 15	13.75	15 00	13.80		
Bacon, breakfast.	22.00	23.75	27 80	27 00	28. 10	29.38	31.75	30 80	25 38	29.00		27.75	27. 53
Lard (tierces)	11.06	12.69	13.90	12 12	13. 23	13 03	13 22	13 18	13 16	13.62	13.38	11.55	12 9 8
Lard compound (tierces)	10 25	12 03	14 00	13 38	19 83	13 41	13 75	12 97	11.19	11 05	13 16	11 90	12, 48
		12 (13)	14 DU	10 001	10 00	TO 41	10 (0)	14 91	11.19	11 40	10 10	11 9U	14. 10

Table 490.—Cold-storage holdings of frozen and cured meats, 1917 to 1922.1

[000,000 omitted]

Year.	Jan. 1.	Feb.	Mar. 1.	Apr 1.	May 1.	June 1.	July 1.	Aug. 1.	Sept.	Oct. 1.	Nov. 1.	Dec. 1.
1917	804	875	914	852	828	832	879	893	778	633	587	709
1918	981	1,118	1,266	1,355	1,319	1,300	1,149	1,137	1,036	905	882	938
1919	1, 199	1,452	1,436	1,389	1,332	1,284	1,254	1,171	1,061	984	881	865
1920	1, 016	1,187	1,279	1,304	1,252	1,209	1,194	1,115	977	784	670	656
1921	820	976	1,138	1,108	1,043	1,017	989	899	777	607	491	505
1922	567	624	681	717	713	745	817	789	727	589	512	569

LIVE-STOCK VALUES.

Table 491.—Aggregate live-stock value comparisons.

[Farm values Jan 1, in millions of dollars; 1 e., 000,000 omitted.]

-											
	Cattl	le, hogs sheep.	, and	Horse	es and r	nules.		(cattle p, horses.)		Rank	in ag- e value.
State.	Aver- age, 1917- 1921.	1922	1923	Aver- age, 1917- 1921.	1922	1923	Aver- age, 1917- 1921.	1922	1923	1922	1923
Maine. New Hampshire. Vermont. Massachusetts Rhode Island.	20	13	15	16	12	11	36	25	26	42	43
	12	9	9	6	4	4	18	13	13	46	46
	30	22	24	11	8	8	41	30	32	40	40
	21	17	16	8	7	6	29	24	22	43	44
	3	3	3	1	1	1	4	4	4	48	48
Connecticut. New York. New Jersey. Pennsylvania. Delaware.	15	12	13	7	5	5	22	17	18	45	45
	183	134	129	80	62	60	263	196	189	8	10
	22	16	17	13	11	10	35	27	27	41	42
	137	98	102	75	62	61	212	160	163	12	13
	5	3	3	4	3	3	9	6	6	47	47
Maryland	26	19	20	20	16	15	46	35	35	38	38
	64	38	42	46	35	35	110	73	77	25	24
	44	26	30	21	16	16	65	42	46	36	36
	52	36	36	64	51	51	116	87	87	22	23
	35	21	21	52	34	32	87	55	53	32	33
Georgia.	75	41	39	83	47	49	158	88	88	20	22
Florida.	38	23	23	13	11	10	51	34	33	39	39
Ohio.	206	124	139	99	81	75	305	205	214	5	6
Indiana.	168	104	119	93	65	59	261	169	178	11	11
Illinois.	257	146	180	155	96	96	412	242	276	3	3
Michigan	134	81	92	70	56	55	204	137	147	14	14
Wisconsin	233	151	170	79	61	67	312	212	237	4	4
Minnesota	201	128	141	93	70	69	294	198	210	6	8
Iowa	441	246	320	152	102	111	593	348	431	1	1
Missouri	216	122	143	128	70	69	344	192	212	9	7
North Dakota	69	42	48	76	45	45	145	87	93	21	21
South Dakota	145	81	104	66	39	40	211	120	144	15	15
Nebraska	246	137	175	98	59	60	344	196	235	7	5
Kansas	206	112	133	128	67	64	334	179	197	10	9
Kentucky	80	43	49	71	50	46	151	93	95	18	17
Tennessee	68	40	44	76	53	51	144	93	95	17	18
Alabama	59	31	31	58	38	41	117	69	72	27	26
Mississippi	63	33	31	63	42	43	126	75	74	24	25
Louisiana	47	25	23	42	34	32	89	59	55	30	31
Texas	299	184	167	186	129	121	485	313	288	2	2
Oklahoma Arkansas Montana Wyoming Colorado	106	58	55	92	54	48	198	112	103	16	16
	55	29	25	60	40	38	115	69	63	26	29
	98	57	70	43	28	25	141	85	95	23	19
	89	43	51	14	8	7	103	51	58	33	30
	109	64	72	37	25	22	146	89	94	19	20
New Mexico	80	41	35	16	10	10	96	51	45	34	37
Arizona	61	38	45	11	10	9	72	48	54	35	32
Utah	48	29	40	12	9	9	60	38	49	37	35
Nevada	36	18	24	5	2	3	41	20	27	44	41
Idaho Washington Oregon California	67 41 70 159	41 33 43 118	49 31 46 129	24 31 27 49	18 22 22 22 36	16 21 23 36	91 72 97 208	59 55 65 154	65 52 69 165	29 31 28 13	28 34 27 12
United States	4,939	2,973	3,323	2,674	1,826	1,788	7, 613	4,799	5, 111		

LIVE-STOCK PRICES.

Table 492.—Farm prices of live stock, by ages and classes, United States, 1917-1923.

Classes	1917	1918	1919	1920	1921	1922	1923
Horses' Under 1 year old	\$45. 17	\$45 20	\$42. 62	\$37. 22	\$31 57	\$26. 32	\$26. 12
	70. 21	70.21	65. 94	58. 88	49 72	41. 24	40. 98
	112. 64	114.30	108. 17	103. 53	90.70	76. 02	75. 00
	53. 98	57.61	59. 14	60. 12	47.49	35. 18	34. 17
	80. 28	86.32	89. 14	90. 48	71.76	53. 04	51. 51
	128. 17	139.88	147. 65	160. 54	126.39	95. 44	93. 14
	20. 71	23.44	24. 97	24. 50	17.42	13. 42	14. 81
	33. 93	38.63	41. 74	40. 69	29.01	22. 32	24. 46
	48. 63	55.62	60. 41	59. 66	43.72	32. 83	34. 94
	5. 63	9.06	8. 82	8. 06	5.34	4. 24	6. 66
	7. 48	12.70	12. 44	11. 03	6.37	4. 84	7. 68
	6. 78	11.26	11. 02	9. 60	5.93	4. 07	6. 05
	13. 62	20.84	21. 90	21. 63	15.10	11. 37	14. 18

LIVE-STOCK MARKETING.

Table 493.— Yearly receipts, local slaughter, and stocker and feeder shipments at all public stockyards in United States, 1915 to 1922.

[000 omitted]

		Cattle.			Hogs.			Sheep.	
Year.	Receipts.	Local slaughter.	Stocker and feeder ship- ments.	Receipts.	Local slaughter	Stocker and feeder ship- ments	Receipts.	Local slaughter.	Stocker and ieeder ship- ments
1915	14, 553 17, 676 23, 066 25, 295 24, 624 22, 197 19, 787 23, 217	7, 912 10, 294 13, 275 14, 874 13, 633 12, 194 11, 078 12, 435	(2) 3, 847 4, 803 5, 013 5, 286 4, 102 3, 504 4, 929	36, 213 43, 265 38, 042 44, 863 44, 469 42, 121 41, 101 44, 067	24, 893 30, 984 25, 440 30, 441 30, 018 26, 761 26, 335 28, 737	(2) 194 788 989 902 728 499 593	18, 435 20, 692 20, 216 22, 485 27, 256 23, 538 24, 168 22, 364	10, 254 11, 228 9, 142 10, 266 12, 646 10, 981 12, 858 10, 669	(2) 3, 277 4, 448 5, 208 6, 956 5, 180 3, 095 4, 167

¹ Compiled from data of the reporting service of the Live Stock, Meats and Wool Division, Bureau of Agricultural Economics.

Agricultural Economics.

2 Complete information for 1915 and 1916, particularly on disposition of stock, is not obtainable from many markets.

LIVE-STOCK SLAUGHTER.

Table 494.—Live stock: Yearly slaughter under Federal inspection, 1910 to 1922. [000 omitted.]

Year ending June	Cattle	Calves	Swine	Sheep	Goats	All animals.	Food products.	Con- demned.
1910	7, 963 7, 781 7, 532 7, 156 6, 724	2, 295 2, 220 2, 243 2, 098 1, 815	27, 656 29, 916 34, 966 32, 288 33, 290	11, 150 13, 006 14, 209 14, 724 11, 959	116 54 64 57 122	49, 179 52, 977 59, 014 56, 323 56, 910	Pounds 6, 223, 965 6, 934, 233 7, 279, 559 7, 094, 810 7, 033, 296	Pounds 19, 032 21, 074 18, 097 18, 852 19, 135
5-year average	7, 431	2,134	31,623	13, 610	83	54, 881	6, 913, 173	19, 238
1915	6, 964 7, 404 9, 299 10, 938 11, 242	1, 736 2, 048 2, 680 3, 323 3, 674	36, 248 40, 483 40, 211 35, 449 44, 399	12, 909 11, 986 11, 343 8, 770 11, 268	166 180 175 150 126	58, 023 62, 101 63, 708 58, 630 70, 709	7, 533, 070 7, 474, 242 7, 663, 634 7, 905, 185 9, 169, 042	18, 780 17, 897 19, 857 17, 543 30, 323
5-year average	9, 169	2,692	39, 358	11, 255	159	62, 634	7, 949, 035	20, 880
1920 1921 1922	9, 710 8, 180 7, 872	4, 228 3, 896 3, 924	38, 982 37, 703 39, 416	12, 335 12, 452 11, 968	77 20 14	² 65, 332 ² 62, 252 ² 63, 196	7,755,158 7,127,820 7,427,117	18, 202 14, 079 13, 034

FOREST STATISTICS.

Table 495.—Production of lumber, by States, 1870 to 1920.

eported quantities for each period known, except 1915-1918 and 1920, for which years computed quantities are given, with rank of leading 25 States. Black-faced figures indicate maximum production 1870 to 1920.

The figures in this table and Table 406 are rounded off from tables containing more detailed figures, which has resulted in slight discrepancies in the totals of the columns

·	<i>a</i> ₂ 00	on oj i	100 150	parentent of rigi to account, 1522.	
		State	United States.	Alabama. Arracona. Arracona. Arracona. Californa. Caloraco Connectrut. Delaware Florida. Georga. Illinois. Ildaho. Illinois. Ildaho. Illinois. Ilouisana. Igensas. Kentucky. Ilouisana. Maryland. Masschusetts. Masschusetts.	Minnesota. Mississippi. Missouri Montana. Nebraska.
	1910	Quan- taty.	Millions bd ft. 840,018	1,466 1,255 1,255 1,255 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045 1,045	1, 458 2, 122 502 319 (+)
		Капк.		11 7 11 118 118 118 118 118 118 118 118	24.
	1909	Quan- tıty.	Millions bd ft 44, 510	1, 691 1, 1144 1, 114 1, 1144 1, 11	1, 562 2, 573 660 309 (4)
		Rank.	:	10 19 11 12 12 18 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	23.3
	1908	Quan- tity.	Millions bd ft. 33, 224	1,152 1,657 1,657 1,657 117 117 117 118 128 1128 1128 1128 112	1,286 1,861 459 312
		Rank.		11	G. 8:
	1907	Quan- tity.	Millions bd ft 40,256	2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2	1, 661 2, 094 549 344
	, .	Rank.		15 14 14 19 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10	9 4 5
	1906	Quan- tity	Millions bd ft. 37, 551	1,010 1,339 1,389 1,389 1,389 1,389 1,389 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089 1,089	1, 794 1, 840 507 329
٠	,	Rank.	:	15 6 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	24
	1905	Quan- tity.	Millions bd ft. 30, 503	944 1, 489 1, 0628 1, 0628 1, 0638 112 113 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1148 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149 1149	1,926 1,299 362 189 (7)
		Капк.		25 25 11 11 12 12 12 12 12 12 12 12 12 12 12	4,∞¤
	1904	Quan- tity.	Millions bd.ft. 134, 135	1, 244 1, 681 1, 677 1, 7077 1, 7077 1, 181 818 81 81, 188 2, 112 2, 564 2, 458 8, 564 2, 458 8, 644 8,	1, 942 1, 727 1, 554 236
		Rank.		11 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	24
	1899	Quantity.	Millions bd.ft. 234,787	1,097 1,586 1,586 1,080 1,300 1,300 1,300 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000	2,342 1,202 716 255
		Капк.		2 12 13 13 13 13 13 13 13 13 13 13 13 13 13	242
	1890	Quan-tity.	Millions bd ft. 123, 498	586 516 516 516 88 88 88 87 77 77 70 70 70 84 84 82 82 84 84 84 84 84 84 84 84 84 84 84 84 84	1,079 453 396 90 90
		Rank.		e 41 25 25 1 1 2 2 2 2 1 1 1 1 1 1 1 2 2 2 2	4778
	1880	Quan-tity.	Millions bd.ft. 18,091	252 111 1013 306 404 428 228 228 228 228 453 188 188 188 183 183 183 183 183 183 18	169 169 121 14
		Rank.		2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 11 1
	1870	Quantry.	Millions bd.ft. 12,756	25 25 25 25 25 25 25 25 25 25 25 25 25 2	242 161 330 13 14
		Капк.		25 10 10 11 13 13 15 15 16 17 17 17	41 81 8 8 8
0		State.	United States.	sbama kansas kansas kansas rafornia orafornia nrectreut rida rigas nois jana 100s jana 100s jana 100s jana 100s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s jana 10s	nesota 14 sussippi 18 souri 8 itana raska

Nevada. New Hampshire New Jersey. New Mexico. New York.	North Carolina Ohio. Oktahoma. Oregon. Pennsylvana. Rude Island. South Dakota. Tennessee Texas	Utah. Vermont. Vashuna. Washungton. West Virgina Wisconsin. All other.	Northeastern Central Southern No Carolina pine Lake Pacific Rocky Mountain.
(4) 444 37 84 84 506	1,825 490 1,241 1,241 1,241 1,016 1,884	12 285 1,652 4,097 1,377 1,891 15 12	3,954 13,249 4,184 7,437 1,385 1,385
23	25 4 15 17 17 6	100 110 113	94H10881F8
(*) 650 62 92 681	2,178 543 2543 1,463 25 898 898 1,224 2,099	13 352 2,102 3,863 1,473 2,025 2,025 16 11	5, 197 14, 796 14, 796 5, 177 5, 476 6, 905 1, 292 1, 292
22 23	4 19 14 20 16 16	9-23	708-1940V-8
(+) 607 35 79 787	1,137 1,459 1,468 1,203 1,203 261 261 791 1,524	15 304 1,199 2,916 1,097 1,613 14 11	4, 622 10, 711 711 72, 896 7, 378 1, 104 1, 104
22	13 25 8 8 10 10 18 18	11-42	850-10437-8
(+) 754 40 118 849	1, 622 529 140 1, 636 1, 735 83 649 35 895 895 895	15 874 1,412 3,778 3,778 2,003 1,396 1,176	5,657 12,342 3,684 5,492 6,759 1,209 185
23 :: 83	25 10 8 8 18 18 18	12 13 5	8915437-8
539 36 103 811	1, 223 , 439 , 8 49 1, 605 1, 621 1, 22 567 23 635 1, 741	8 329 1,063 4,305 4,305 976 2,331 13 13	5, 190 3, 807 10, 947 2, 853 6, 220 7, 259 1, 039 236
	12 10 10 10 10 10 10 10 10 10 10 10 10 10	41 14 15 15 15 15 15 15 15 15 15 15 15 15 15	451583128
(4) 341 18 (4) 750	1,081 332 12,263 1,397 1,397 1,466 12 541 930	267 267 715 3,917 673 2,544 12 89	24, 081 8, 2, 844 8, 226 6, 189 6, 189 241 243
25	10 9 7 7 20 12	18 18 18	45108310
(4) 492 444 81 582	1,318 421 (4) 987 1,739 15 610 14 776 1,406	13 337 950 2,486 2,623 1,628	4, 602 3, 968 10, 466 2, 878 6, 572 4, 550 747 351
25	10 14 6 20 19	172	855-9847-8
1 562 73 31 875	1,278 957 957 22 734 9,321 18 466 9,34 939 1,231	17 366 956 1,428 774 8,862 17 10	5,640 6,511 8,359 2,701 2,891 5,566 407
25	23 4 16 16	155 105 115	84091528
267 32 26 910	509 541 3 445 2,113 198 198 450 840	14 370 410 1,062 300 2,817 0 8	4,626 3,034 1,117 2,032 2,19 612 612
9	16 13 19 3 18 18	22 22 25	2489-1287-
22 292 110 11 1, 184	242 911 177 1,734 186 29 303 329	26 323 316 160 180 1,542 3	4, 643 1, 733, 949 7, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 744 1, 7
19	22 6 6 24 118 118	25 25 33	204101087
35 253 102 7 1,310	125 557 75 1, 630 13 95 4 4 205 107	20 242 144 128 1,098 1,098	4,557 2,284 923 3,592 558 558 417
24	22 7 7 16 16 23	22 22 4 4	164727089
zada	th Carolina gon gon misylvania o'de Island th Carolina th Dakota nessee.	hont mont shugton st Virgina stonsin oming other.	theastern tral. thern. Carolina pine. 3.4. 3.4. 3.4. 3.4. 3.4. 3.4. 4.4. Mountain.

Fortheastern.—Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampse, New Jersey, New York, Pennsylvana, Khode Island, Vermont.
Pennsylvana, Editucky, Missouri, Ohio, Tennessee, West Virginia.
Pennsylvana, Arkansas, Florda, Georga, Louisnan, Mississippi, Oklahoma, 19th Carolina pine.—North Carolina, South Carolina, Virginia.

Lake — Michigan, Minnesota, Wisconsin.

Pacific.—California, Nevada, Oregon, Washington
Rocky.—California, Nevada, Oregon, Washington
Rocky. Mountain.——Lizona, Colorado, Idaho, Montana, New Mexico, Utah, Wyoming.

Li dula.—Iowa, Kanass, Kanass, South Dakota.

* See footnotes on p. 6949.

Table 495.—Production of lumber, by States, 1870 to 1920—Continued.

	State.	United States	Alabama. Arizona. Arizona. Arizona. California. Colorado. Comecticut. Delaware. Florida. Georgia.	Illinous, Indiana. Iowas. Kansas. Kentucky. Louisiana. Maryland. Maryland. Michigan.	Minnesota. Missusappi. Missusappi. Montana Nebraska. Newada. New Hampshire. New Hampshire. New Mexey.
1920	Quan- tity.	Millions bd ft s 33,799	1,439 1,452 1,451 1,451 70 72 20 1,001 762 970	258 258 14 14 5421 3,120 506 86 139 139	2, 224 2, 224 274 110 (13) (13) (13) (14) (14) (14) (15) (14) (14) (14) (15) (16) (17) (17) (17) (18) (18) (18) (18) (18) (18) (18) (18
	Rank.	:	7 6 6 6 12 12 13 13 13 13 13 13 13 13 13 13 13 13 13	22 23 33 33 34 34 34 34 34 34 34 34 34 34 34	61 4 8 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1919	Quantity.	Millions bd. ft. 21834,552	1, 799 1, 724 1, 259 1, 259 87 87 27 1, 137 1, 137	65 282 18 3 3, 164 3, 164 596 113 113 113 876	2,390 2,330 321 287 1 20 339 339 338 87 87
	Rank.		5 6 9 10 10 13 18	22.27	22 24 25 25 25 25 25 25 25 25 25 25 25 25 25
8161	Quantity.	Millions bd.ft. 3 31,890	1, 270 1, 470 11, 477 11, 277 64 64 950 950 803	42 250 14 5 340 3,450 650 711 175	1,005 1,935 273 340 (18) (18) 350 89 89 89
	Rank.	. :	9 7 7 7 12 21 21 15 15	13. 17.28	14 12 13 13
1917	Quantity.	Millions bd.ft. s 35,831	1,555 1,765 11,765 11,417 72 66 8 1,230 1,230	45 240 13 13 4,210 770 68 155 1,065	1,075 2,425 27,425 375 350 (18) 290 25 93 360
	Rank.		5 9 9 111 119 171	16 23 23 13 15 15 15 15 15 15 15 15 15 15 15 15 15	21 4 12 12 12
9161	Quan-	Millions bd.ft. s 39,807	1,720 1,910 1,1910 1,420 75 75 1,426 1,000 1,000	60 270 20 20 1,200 4,200 935 935 90 1,230	1,220 2,730 260 384 (18) (18) 385 385 400
	Rank.		8 77 11 11 10 10 16	22 22 17 17 13	25 25 24 25 25 25 25 25 25 25 25 25 25 25 25 25
1915	Quan- tity.	Millions bd ft. \$37,012	1,500 1,800 1,130 1,130 90 25 1,110 1,000	110 350 350 3,900 1,000 1,100	1,100 2,300 350 328 (3) (45) 500 45 66 66 66
	Rank.	:	8 21 11 12 12 12 12 12 12 12 12 12 12 12	22 22 16 13	24
1914	Quan- tıty.	Millions bd.ft 1837,346	1,495 1,797 1,303 1,303 82 82 82 1,074 1,074	66 299 299 (4) 11 293 162 162 162 143 1, 214	2,281 2,281 371 318 (*) (*) (*) 483 483 483 577 686
	Rank.		8 12 12 8 12 12 12 8	::::::::::::::::::::::::::::::::::::::	12 83 1 1 1 2 2 2 2 2 2
1913	Quan- tıfu.	Millions bd.ft. 8 38,387	1,524 1,912 1,183 1,183 1,055 1,055 844 853	103 333 222 4, 162 835 140 1, 223 1, 223	1,150 2,611 417 358 (*) (*) 309 27 26 66 66
	Rank.		8 17 13 13 14 15 15 17 17 17 17 17 17 17 17 17 17 17 17 17	12 8 22 15	4.24 : : : : : : : : : : : : : : : : : : :
1912	Quan- tity.	Millsons bd ft. 8 39, 158	1,378 1,822 1,823 1,203 109 28 1,068 941	123 401 47 (4) (84) 882 174 174 1,489	1,437 2,382 422 272 272 (4) (4) 479 35 83
	Rank.		21 .7 .4	10 19 22 10 10 10 10 10 10 10 10 10 10 10 10 10	He : : : : : : : : : : : : : : : : : : :
1911	Quan-	Millrons bd ft. 8 37,003	1, 226 1, 777 1, 777 1, 208 1, 208 125 244 802 802 802	97 361 60 632 3,566 828 144 144 174 1,467	1,485 2,042 2,042 228 (4) (4) 389 29 29 84 84 526
	Rank.		13 16 16 18 18	21 22 18 10	2
	State.	United States	labama. Trizona. Trizona. Ramass. Alfornia. Olorado. Onnecticut elaware. Iorida. eorgia.	linois. ddana. Wwa. ansas. entucky outsiana. aine. aine. assachusetts.	innesota. Issusippi. Issour. ontana. ontana. evada. ew Hampshre. ew Hersey. ew Mexico.

North Carolma Ohio. Oklahoma. Oregon Pennsylvana. Rhode Island South Carolma. South Dakota Tennessee Texas.	Utah. Vermont Vinguna. Washington. West Virginia. Wisconsin Wyoming	Northeastern Central Southern, North Carolina pine Lake Pacific Rocky Mountain
1,247 247 163 3,317 520 9 9 610 45 780 1,329	1,014 5,525 6,98 1,060 8	2, 198 2, 735 11, 490 2, 872 2, 386 1, 699 64
e :: 28 8 44 8	1171	94H8001F8
1,654 280 168 2,577 630 11 622 43 792 1,380	12 218 1,098 4,961 763 1,116	2,584 3,016 12,704 3,374 2,692 8,818 1,298 65
7 3 119 20 115 8	12 17 11 11 11 11 11 11 11 11 11 11 11 11	04H800V×°
1,240 235 235 2,710 2,710 13 545 30 630 1,350	10 160 855 4,603 1,275 8	2,374 2,490 11,135 2,640 3,220 8,590 1,389
10 13 18 18 6	141 11 16 8	841034 HUG
1,480 225 226 2,585 2,585 11 745 29 1,735	170 1,060 4,568 890 1,385 9	2,488 13,265 13,900 1,571 1,371 171 171
8 18 29 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	41 25 1	\$4001100 \$4001100
2,100 280 240 2,222 750 1857 857 857 857 2,100	200 1,335 4,494 1,220 1,600 1,600 (3)	3,115 3,315 4,293 4,050 4,050 1,524 1,524
2 2 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	12 1 1 14 9	\$417±80±01¢
2,090 400 1,690 1,690 15 800 1,750	260 1,500 3,950 1,110 1,210 1,210 1,210 (3)	3,775 13,590 4,390 6,770 1,349 1,349
25 13 18 19 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	151	410-10001-0
2,228 286 286 201 1,818 865 16 702 19 885 1,554	250 1,488 3,946 1,118 1,391 1,391	3,553 13,3821 13,3821 4,417 1,380 1,340 46
21 118 17	60 44 0 10 10	8-12+31-56
1,957 415 140 2,098 782 15 1752 19 872 2,081	195 1, 274 4, 592 1, 250 1, 493 19 19	3,097 14,329 3,983 3,983 3,866 1,247 1,247 60
25 4 119 20 16	1977 6 II	Ф4H8v37Fx
2, 193 500 1, 916 992 14 817 21 933 1, 902	236 1,570 5,000 1,319 1,499 1,23	3,713 13,538 13,538 4,580 1,256 1,256
24 16 16 18 18 18	153 153 153 153	⊕ 55 1 5 5 6 5 6 5 6 6 6 6 6 6 6 6 6 6 6 6
1,799 1,804 1,049 1,049 5,85 1,3 1,1681	11 239 1,360 1,762 1,762 19 12	3,635 4,238 12,222 3,743 4,714 7,076 1,291
25 17 17 17 18	121 17 11 12 11 12 11 12 11 1	⊕4H5887FX
trth Carolina. 6 10. 24 glahoma. 24 glahoma. 4 msylvama. 15 ode Island. 15 tth Carolina. 22 tth Dakota. 17 messee. 17 as. 17	h mont 12 gmis 12 shington 1 st Virgina 11 st Virgina 11 scorsin 7 coming other	state groups theastern that then th Carolina pine th Carolina pine th Sarolina inc inc inc inc other

¹ Excludes custom mills (sawing 3,196,527 M feet in 1890).

² Inductes both merchant and custom sawing.

³ Mills cutting less than 50 M feet each per year excluded.

⁴ Included in "all other" of the "all other "of the "all other "of mills in Nebraska.

⁶ Includes cut of mills in District of Columbia.

⁷ Included with Kansas.

³ Reported as cut of Indian Territory.

⁸ Includes cut of unils in North Dakota

⁹ Reported as the cut of Alaska

¹⁰ Includes cut of Alaska, Nevada, and Oklahoma,

¹¹ Includes cut of Alisona, Nevada, and New Mexico,

¹² Includes cut of Alisona, Nevada, and New Mexico,

¹³ Includes cut of Kansas and a part of Oklahoma.

M Includes cut of Kansas and Nevada
Includes cut of Nebaska and Nevada
Includes 2,665 mills cutting less than 50 M feet each
Includes cut of mills in Nevada.
Includes cut of Mills in Nevada.
Includes cut of Kansas, Nebraska, and Nevada.

Table 496 —Production of lumber, by species, 1899 to 1920.

Reported quantities for each known period, except 1915-1918 and 1920, for which years computed quantities are given, with rank of 15 leading kinds of wood.

The figures in this table and Table 495 are rounded off from tables containing more detailed figures, which has resulted in slight dicrepancies in the totals of the columns.

		1890		1904		1905		1906		1907		1908
Species or kind of wood.	Rank.	Quan-	Rank	Quan-	Rank.	Quan- tity.	Rank.	Quan- tity.	Rank.	Quan- tity	Rank.	Quan- tity.
Total		Millions bd.ft. 34,787		Millions bd. ft. 34, 135		Millions bd. ft. 30, 503		Millions bd. fi. 37, 551		Millions bd.ft. 46,256		Millions bd. ft. 33, 224
Softwoods		26,153		27, 353		24,915		30, 235		31,001		25, 546
Yellow pine. Douglas fir White pine. Hemlock Western yellow pine.	1 5 2 4 8	9,659 1,737 7,742 3,421 945	1 4 2 3 7	11,533 2,928 5,333 3,269 1,279	1 3 2 4 7	8,772 4,319 4,984 2,804 989	1 2 3 4 7	11,661 4,970 4,584 3,537 1,387	1 2 3 5 7	13,215 4,749 4,193 3,373 1,527	1 2 3 5 7	11, 236 3, 675 3, 345 2, 531 1, 276
Spruce. Cypress Redwood Cedar Larch	6 10 13	1,448 496 360 233 51	6 9 12	1,304 750 519 223 32	6 8 11 12	1, 166 753 412 364 141	6 9 11 	1,645 839 660 358 289	6 10 13	1,727 758 569 251 325	6 9 14	1, 412 743 405 273 382
White fir				184		53 123 36		104 134 		147 115 1 53		98 100 70
Hardwoods		8,634		6,782		5,588		7,315		9, 255		7,678
Oak Maple Gum, red and sap Yellow poplar Chestnut	3 9 15 7	4,438 633 285 1,115 207	5 10 11 8 15	2,903 588 524 854 244	5 9 13 10	1, 834 609 317 583 224	5 8 12 10 13	2, 820 883 454 683 407	4 8 11 9 12	3,719 939 689 863 653	4 8 11 10 12	2,772 875 589 654 539
Birch Beech Basswood Elm Cottonwood	11	308 457 415	14 13	224 228 258 321	14	241 219 258 227 236	15 14	370 276 377 225 264	15 14	388 430 381 261 293	15 13 	386 410 320 274 232
AshHickoryTupelo Tupelo Walnut. Sycamore		269 97 39 30		169 107 31 18		160 96 36 30		211 148 48 48		252 203 69 41 46		225 197 69 44 43
Cherry		209		313		² 520	 	98		9		18 30

¹ Includes a small quantity of softwoods in New York not separately reported. ² Reported as "Mixed" and probably includes some softwoods.

Table 496.—Production of lumber, by species, 1899 to 1920—Continued.

		1909		1910		1911		1912		1913		1914
Species or kind of wood.	Rank.	Quan- tity.	Rank.	Quan- tity.	Rank.	Quan-	Rank.	Quan- tity.	Rank.	Quan- tity.	Rank.	Quan-
Total		Millions bd. ft. 44,510		Millions bd.ft. 40,018		Millions bd. ft. 37,003		Millions bd ft. 39,158		Millions bd ft 38,387		Millions bd. ft. 37,346
Softwoods		33,897		31,161		28,902		30, 526		30,303		29,407
Yellow pine. Douglas fit White pine. Hemlock Western yellow pine	1 2 4 5 7	16,277 4,856 3,900 3,051 1,500	1 2 4 5 6	14,143 5,204 3,352 2,836 1,562	1 2 3 5 6	12,897 5,054 3,231 2,555 1,331	1 2 4 5 7	14,737 5,175 3,138 2,427 1,219	1 2 4 5 6	14,839 5,556 2,569 2,320 1,259	1 2 4 5 6	14,473 4,764 2,633 2,166 1,327
Spruce Cypress Redwood Cedar Larch		1,749 956 522 346 421	7 9 12	1,450 936 543 415 383	7 8 13	1,262 982 490 375 368	6 9 13	1,239 997 497 329 407	8 7 12 14	1,047 1,097 510 358 395	7 8 12 14	1,246 1,013 535 500 359
White fir Sugar pine Balsam fir Lodgepole pine All other softwoods		89 97 109 24		132 103 75 27		124 118 83 33		123 132 84 22	••••	88 150 94 20		113 136 125 18
Hardwoods		10,613		8,857		8, 101		8,632		8,084		7,939
Oak	3 8 11 10 12	4,414 1,107 707 858 664	3 8 11 10 13	3,522 1,007 610 735 535	4 9 11 10 12	3,098 952 583 659 529	3 8 10 11 12	3,319 1,021 694 623 554	3 9 10 11 13	3,212 901 773 620 506	3 9 10 13 11	3, 279 910 675 519 541
Birch Beech Basswood Elm Cottonwood		452 511 399 347 266	15 14	421 437 345 265 220	14 15	433 404 305 236 199	14	388 435 297 262 227	15	379 366 257 215 209	15	431 376 265 214 195
AshHickoryTupeloWalnutSycamore		291 334 97 46 57		246 272 92 36 45		214 240 98 38 43		235 279 123 43 49		208 163 120 41 31		189 116 124 26 23
Cherry		25 38		18 50		21 48		22 60		14 7i		56

Table 496.—Production of lumber, by species, 1899 to 1920—Continued.

		1915		1916		1917		1918		1919		1920
Species or kind of wood.	Rank.	Quan- tity	Rank.	Quan- tity-	Rank.	Quan- tity.	Rank.	Quan- tity.	Rank.	Quan- tity	Rank	Quan- tity.
Total		Millions bd. ft. 37,012		Millions bd. ft. 39,807		Millions bd. ft. 35,831		Millions bd. ft. 31,890	<u></u>	Millions bd. ft 34,552		Millions bd ft. 33,799
Softwoods		29,485		31,332		29,174		25,668		27,407		26,810
Yellow pine. Douglas fir. White pine. Hemlock Western yellow pine	2	14,700 4,431 2,700 2,275 1,294	1 2 4 5 6	15,055 5,416 2,700 2,350 1,690	1 2 3 5 6	13,539 5,585 2,250 2,200 1,960	1 2 3 5 6	10,845 5,820 2,200 1,875 1,710	1 2 6 5 4	13,063 5,902 1,721 1,755 1,755	1 2 6 5 4	11,091 6,960 1,500 1,850 2,290
Spruce Cypress Redwood Cedar Larch	14	1,400 1,100 420 420 375	7 8 13 14	1,250 1,000 491 410 455	7 8 11 14	1,125 950 487 265 360	7 10 11 	1,125 630 443 245 355	7 10 12 13	980 656 410 332 388	9 10 11 	825 625 476 260 390
White fir. Sugar pine. Balsam fir. Lodgepole pine. All other softwoods.		125 128 100 26		190 169 125 31		218 133 89 12		213 112 82 12		223 134 68 16		280 146 85 31
Hardwoods		7,527		8,475		6,657		6,223		7,145		6,989
Oak. Maple Gum, red and sap. Yellow poplar. Chestnut.	3 9 10	2,970 900 655 464 490	3 9 10 11 12	3,300 975 800 560 535	4 9 10 15 13	2,250 860 788 350 415	4 8 9 15 12	2,025 815 765 290 400	3 8 9	2,708 857 851 329 546	3 7 8 15 12	2,500 875 850 350 475
Birch Beech Basswood Elm Cottonwood	••••	415 360 260 210 180	15	450 360 275 240 200	12	415 296 203 205 190	13 15 	370 290 200 195 175	14 15	375 359 184 194 144	13	405 325 195 225 155
Ash. Hickory. Tupelo. Walnut. Sycamore.		190 100 170 90 25		210 125 275 90 40		175 95 265 62 32		170 100 237 100 30		155 170 144 39 28		170 150 180 35 31
Cherry All other hardwoods Minor species		48		40	 	56	•••• ••••	61		61		68

Table 497.—Lumber production reported, 1920. YELLOW PINE.

	Number of active	Quantity	reported.	A verage value per
State.	mills report- ing.	M feet b. m.	Per cent. 100 0 23 0 14.8 12 6 11 0 8.3 6.5 5.8 5.8 1.5 8.8	f. o b mill.
United States Louisiana Mississippi Texas Alabama Florida	202 549 221 872 196	8,964,313 2,066,263 1,322,958 1,125,015 985,773 744,373	23 0 14.8 12 6 11 0 8.3	\$35 89 42.50 36 67 33.81 31 44 35 77
Arkansas North Carolina Georgia South Carolina Virginia	1,053 694 367 731	586, 369 517, 425 478, 547 436, 246 404, 804	5.8	36.77 29.88 26.84 39.06 33 48
Oklahoma Tennessee Maryland Missouri All other States	292 149	135, 280 74, 167 35, 360 23, 693 28, 040	1.5 .8 .4 .3 .3	37 60 25 16 29 71 25 57 27.43

¹ For total production in United States by spaces can Table 408

Table 497.—Lumber production reported, 1929—1 ontinued.

DOUGLAS FIR.

State.	Number of active mills	Quantity	reported	Average value per
	report- ing	M feet o m	Per cent.	f, o b mill
United States	1,403	ი, 956, იგ <u>კ</u>	100 0	\$94 59
Washington Oregon Califorma Idaho Montana	464 527 101 131 34	4, 275, 017 2, 347, 368 161, 6:2 105, 786 55, 670	51 5 33 4 2 2 1 5	34 94 34 50 30 50 25 09 29 79
All other States	9n	11,210	2 1	31. 1
WHITE PINE				
United States	2,769	1, 377, 327	100 0	\$41 49
Minnesota Idaho Maine New Hampshire Wisconsin	170 30 317 195 207	429, 210 261, 251 165, 102 121, 232 88, 979	31 2 19.0 12 0 8.8 6 5	37 43 53 92 33 94 - 32 07 49 20
Washington New York Massachusetts Michigan Pennsylvania	38 725 164 129 337	69, 051 66, 311 57, 905 36, 186 29, 004	5.0 4 8 4 2 2.6 2.1	45 02 46 79 30 26 48 07 48 11
Vermont. West Virginia. Virginia All other States.	38 51 86 196	13, 327 6, 163 6, 127 27, 009	1 0 4 4 2 0	41 14 40 12 32 97 36 9.
HEMLOCK.				
United States	3,001	1,685,320	100 0	\$32 O.
Washington Wisconsin Michigan Pennsylvania Oregon	124 213 176 334 47	495, 444 403, 325 206, 840 134, 740 89, 130	29 4 23. 9 12. 3 8. 0 5. 3	27. 90 31. 61 31. 58 44. 69 25 73
West Vırginia. New York Maine. North Carolina. Tennessee.	91 946 310 76 57	85, 408 74, 004 54, 726 33, 271 32, 721	5. 1 4. 4 3. 3 2. 0 1. 9	41. 98 38. 99 31. 09 30. 64 29. 07
New Hampshire Vermont Vrgmna Massachusetts Kentucky	143 203 65 94 43	23, 508 17, 330 16, 992 7, 105 6, 775	1.4 1.0 1.0 .4 .4	30, 36 34, 11 37, 46 29, 19 26 05
All other States	79	4,001	.2	32, 27
WESTERN YELLOW	PINE			
United States	900	2, 270, 898	100.0	\$38.78
OregonCahfornia, including Nevada	180 141 124 148 67	630, 326 509, 471 366, 857 278, 573 173, 507	27. 7 22. 6 16. 1 12. 2 7. 6	44. 03 37. 50 35. 97 37. 34 31. 78
Arizona New Mexico. South Dakota Colorado All other States	19 53 44 81 43	119, 406 104, 059 45, 033 37, 191 6, 475	5. 3 4 6 2. 0 1. 6 3	37. 48 38. 22 41. 00 27. 22 23. 71

Table 497.—Lumber production reported, 1920—Continued.

SPRUCE

		,		
	Number of active	Quantity	reported.	Average value per
State.	mills report- ing.	M feet b. m.	Per cent.	1,000 feet f. o. b mill.
United States	1,241	805, 320	100.0	\$38 94
Washington Oregon. Mame. West Vırgınia New Hampshire.	75 39 244 11 94	192, 671 165, 418 164, 652 48, 121 43, 835	23. 9 20. 5 20. 5 6. 0 5. 4	37. 70 37. 03 40. 65 46. 23 39. 80
North Carolina. Minnesota New York Vermont Montana	9 74 188 205 21	33, 588 31, 492 27, 823 25, 962 21, 573	4. 2 3. 9 3. 5 3 2 2. 7	42, 90 34, 97 44, 33 38, 92 32, 98
Colorado Idaho Michigan All other States	64 24 67 126	13, 859 10, 572 8, 686 17, 068	1.7 1.3 1.1 2.1	32, 89 42, 38 39 79 32, 87
CYPRESS				
United States	656	571,674	100 0	\$51 02
Louisiana Florida Georgia Missouri South Carolina	90 40 59 43 33	273, 116 105, 329 45, 863 41, 053 36, 183	47. 8 18. 4 8 0 7. 2 6. 3	54. 84 52. 27 53. 18 39 93 51. 35
Arkansas. Mississippi. North Carolina. Tennessee. All other States.	134 63 54 45 95	31,790 11,945 5,913 5,737 11,745	6.1 2.1 1.0 1 0 2 1	37 78 38 97 42.48 43.04 40 00
REDWOOD	·		·	<u> </u>
United States 1.	43	476,003	100.0	\$46.90
CEDAR.				
United States	637	245,079	100 0	\$38.68
Washington California Oregon Idaho Tennessee.	96 71 51 21 111	113, 351 36, 030 34, 482 26, 663 10, 963	46. 2 14. 7 14. 1 10. 9 4. 5	36, 65 31, 68 47, 09 34, 48 69, 61
Maine. Michigan. Wisconsin. All other States.	55 34 41 157	6, 837 5, 252 2, 445 9, 056	2.8 2.1 1.0 3.7	35, 27 33, 56 29, 72 42, 85
LARCH				
United States	528	375, 103	100.0	\$30. 28
Idaho Montana Washington Oregon Michigan	62 44 75 19 86	142, 103 112, 400 66, 266 17, 938 12, 457	37. 9 30. 0 17. 7 4. 8 3. 3	31. 01 30. 22 28. 01 31. 97 31. 89
Wisconsin	114 89 39	11,765 11,706 468	3.1 3.1 .1	28. 71 31. 68 88. 85

Table 497.—Lumber production reported, 1920—Continued.

WHITE FIR.				
State. State. State. Number of active mills reporting.	ofactive	Quantity reported.		value per 1,000 fees
	M feet b. m.	Per cent.		
United States.	231	279,645	100.0	\$30.41
California, including Nevada Idaho Washington Montana.	65 38 43 4	151, 957 54, 424 32, 395 22, 891	51 3 19.5 11.6 8.2	30, 05 35, 23 22 19 37, 80
OregonAll other States	51 33	14, 199 3, 779	5.1 1.3	23. 30 27. 35
SUGAR PINE.				l
United States	73	145,906	100.0	\$48.70
California. Oregon.	62	141, 134 4, 772	96. 7 3. 3	49.10 35.78
BALSAM FIR.			-	
Umted States	407	70,511	100.0	\$34.33
Maine. Wisconsin. Minnesota. Michigan.	142 38 53 39	31,042 13,903 12,377 5,321	44.0 19.7 17.6 7.5	35 39 36 23 28 52 36 83
Vermont New Hampshiic All other States	72 29 34	4,440 2,332 1,096	6.3 3.3 1.6	34 59 27 87 46.26
Lodgepole.				1
United States.	103	30,136	100.0	\$30 58
Montana Colorado Wyoming. All other States	. 24	15,603 10,634 2,744 1,155	51.8 35.3 9.1 3.8	33. 03 29 45 23 50 24. 71
OAK.		····		1
United States	8,552	1,853,580	100.0	\$46.88
Arkansas. Tennessee. West Virginia. Virginia. Kentucky.	477 551 383 813 532	225, 422 221, 260 202, 499 166, 667 141, 588	12. 2 11. 9 10. 9 9. 0 7. 6	43, 42 46, 00 59, 51 51 07 44, 25
Mississippi Missouri Louisiana Pennsylvania Ohio	104	115,399 101,667 92,725 88,729 85,131	6. 2 5. 5 5. 0 4. 8 4. 6	41. 35 36. 95 39. 84 45. 11 54. 21
North Carolina. Indiana Alabama New York Texas	425 625	82,671 79,640 46,646 32,157 27,074	4.5 4.3 2.5 1.7 1.5	45 07 62 74 33 20 53 88 42, 43
Georgia	239 1,464	26,003 118,302	1.4 6.4	

Table 497.—Lumber production reported, 1920—Continued.

MAPLE.

	Number of active	Quantity reported		Average value per
State.	mills report- ing.	M feet b. m	Per cent.	1,000 feet f o b mill.
United States	4,131	768,345	100.0	\$59 16
Michigan Wiscolsin New York West Virginia Pennsylvania	264 857	279,911 188,252 72,724 56,630 39,194	36 4 24.5 9 5 7 4 5.1	54. 04 49 77 48 38 57. 26 47 01
Indiana Ohio Vermont Missouri New Hampshire	342 197 105	26,664 21,817 17,759 8,679 7,702	3.5 2.8 2.3 1.1 1.0	47 87 40.01 41.10 40 99 34 32
All other States.	1,122	49,013	6.4	39 62

GUM

				Ī
United States	2,060	684,745	100 0	\$35 24
Arkansas	232	194, 981 147, 781	28. 5 21. 6	36, 79 31, 86
Lousmãa Tennessee Alabama	234	125, 914 52, 821 33, 700	18.4 7.7 4.9	35 79 34, 47 29, 46
South Carolina. Texas. Georgia. Missouri. Virginia.	55 19 60	20,483 18,033 17,991 17,304 12,607	3.0 2.6 2.0 2.5 1.8	35 29 36 33 35.51 37.08 27.88
North Carolina. Kentucky. Florida. Oklahoma. All other States.	171 7	8,687 7,417 7,255 6,546 13,195	1.3 1.1 1.1 1.0 1.9	26 56 28, 48 34 15 54 69 32 23

YELLOW POPLAR.

	1	(1	1
United States	2,583	270,407	100.0	\$58 87
West Virginia. Tennessee. Virginia.	421	61, 443 45, 436 31, 738	23. 8 16. 8 12. 8	74. 28 60. 15 55. 15
Kentucky North Carolina	294	31, 462 20, 584	11.6 7.6	54, 26 49, 61
Georgia Alabama Mississippi Ohio Indiana	198 97 174	17, 169 16, 933 10, 915 9, 304 5, 875	6.4 6.3 4.0 3.4 2.2	62. 86 39. 79 45. 43 59. 51 61. 40
Pennsylvania South Carolma Maryland All other States	27 56	4,528 3,789 2,077 3,154	1.7 1.4 .8 1.2	49. 01 42. 71 40. 24 39. 83
	1	ŀ		i

Table 497.—Lumber production reported, 1930—Continued.
CHESTNUT.

Chrain().				
State-	Number of active mills reporting.	Quantity repeated.		Average
State.		M feet b. m.	Per cent	f. o b mill
United States	2,977	379,675	100 0	\$42.49
Wesi Virginia. Virginia North Carolina. Pennsylvania Tennessee	279 421 157 617 198	97, 301 56, 103 47, 170 45, 067 32, 653	25.6 14.8 12.4 11.9 8.6	50, 93 46, 86 39, 42 37, 09 40, 52
Connecticut. New York Massachusetts. Kentucky Ohio	117 419 110 25 8 167	22,875 17,780 17,682 16,011 7,227	6.0 4.7 4.7 4.2 1.9	35, 59 42, 38 30, 50 32, 40 39, 92
Maryland New Jersey Rhode Island Georgia All other States	87 44 16 6 81	5,312 3,761 3,135 2,561 5,001	1.4 1.0 .8 7	31, 46 46, 11 32, 94 31, 57 32, 11
BIRCH.			·	
United States	1,882	346,577	100 0	\$53, 44
Wisconsin	198 128 445 128 180	177, 305 58, 866 33, 221 17, 490 15, 307	51. 2 17 0 9. 6 5. 0 4. 4	57, 27 51, 88 52, 04 39 01 42, 75
West Virginia. New Hampshire Minnesota. Pennsylvania All other States	104	10,910 10,023 6,427 6,370 10,652	3.1 2.9 1.9 1.8 3.1	69. 21 35. 01 36. 00 51. 71 37. 09
BEECH.	3			
United States	3,051	264, 572	100.0	\$36, 51
New York Michigan Pennsylvania Indiana West Virginia	247 314	43, 982 41, 987 34, 471 33, 471 27, 826	16. 6 15. 9 13. 0 12. 7 10. 5	37 59 41. 28 37. 29 35. 83 40. 92
Ohio Kentucky Louisiana Tennessee Vermont	33 285	18, 970 17, 565 10, 446 8, 711 6, 206	7.2 6 6 3.9 3.3 2.3	33 99 28. 74 26. 14 29. 84 36. 04
New Hampshire Virginia. Mississippi North Carolina. All other States.	58 67 39 30 236	4, 447 4, 189 2, 289 2, 154 7, 858	1.7 1.6 .9 .8 3.0	34. 42 47. 79 32 42 32. 26 31. 41

Table 497.—Lumber production reported, 1920—Continued.

. BASSWOOD.				
	Number of active	Quantity	Average value per	
State.	mills report- irg.	M feet b. m.	Per cent.	1,000 feet
United States	2,372	169, 276	100.0	\$54 28
Wisconsin Michigan West Virginia New York North Carolina	225 154 138 679 66	59, 067 23, 562 19, 369 14, 834 7, 616	34 9 13 9 11 5 8 8 4 5	57 05 56 65 60 81 50. 44 44. 81
Virginia Minnesota. Tennessee Ohio Indiana.	56 104 70 165 122	7, 258 5, 412 4, 953 4, 940 4, 662	4 3 3 2 2 9 2 9 2 8	64 16 38 69 52. 87 50 14 53 24
Pennsylvania Vermont Kentucky All other States	153 127 99 214	4,417 4,308 4,303 4,575	2 6 2 5 2 5 2 7	53 59 44 88 42 36 37 56
ELM				
United States.	2,473	182,845	100.0	\$47.23

United States	2,473	182,845	100.0	\$47. 23
Wisconsin. Michigan. Arkansas. Indiana. Ohio	164	49, 120 28, 951 20, 938 20, 012 10, 751	26 9 15 8 11.4- 10.9 5 9	53 91 59 07 43 24 51, 88 43 36
Mississippi Missouri. New York Tennessee Lousiana	122 423	9, 272 9, 118 6, 879 6, 692 5, 763	5.1 5 0 3.8 3.7 3.1	44. 78 32 17 40. 31 31. 92 27. 72
Minnesota	96 522	4,611 10,738	2 5 5 9	28 05 32 14

COTTONWOOD.

United States	926	138, 076	100.0	\$33.38
Minnesota. Mississippi. Arkansas. Louisiana. Wisconsin.	99 55 47 34 50	47, 773 21, 798 13, 673 8, 165 7, 464	34 6 15. 8 9. 9 5 9 5. 4	27 38 38 51 43.08 31 19 32.26
Missouri. Michigan. Tennessee. Iowa. Oklahoma. All other States.	42 43	6, 133 5, 454 4, 937 3, 578 3, 160 15, 941	4. 4 4. 0 3. 6 2 6 2. 3 11. 5	37. 37 32 04 40. 81 35. 46 31. 78 34 15

Table 497.—Lumber production reported, 1920—Continued.

ASH.

VSH*				
State.	Number ofactive	Quantity	cported	Average value per
Seato.	mills report- ing.	M feet b.m.	Per cent	1.000 feet f. o. b. mill.
Umted States	3, 161	147,618	100.0	\$61, 28
Lousiana Arkansas. Wisconsin Indiana Tennessee.	66 130 173 223 173	20,051 16,516 12,939 12,104 10,911	13.6 11.2 8.8 8.2 7.4	57. 44 53. 54 56. 55 87. 42 69. 59
Ohio New York Mississippi Michigan West Virginia	284 620 75 126 109	9,948 9,363 7,665 5,816 5,063	6.7 6.4 5.2 3.9 3.4	76, 28 57, 74 50, 54 55, 59 86, 96
Georgia Pennsylvama Alabama Missouri South Carolina	27 250 42 68 20	4,894 3,897 3,590 3,527 3,372	3.3 2.6 2.4 2.4 2.3	55. 37 62. 69 51. 69 55. 45 70. 99
Kentucky. All other States	157 618	3,321 14,665	2.3 9.9	50.18 48.36
HICKORY.				
United States	2,686	131, 553	100,0	\$52.57
Arkansas. Tennessee. Kentucky. West Virgma. Indiana	174 306 259 206 267	28, 594 21, 993 11, 492 11, 448 9, 532	21.7 16.7 8.7 8.7 8.7 7.2	58. 59 48. 82 48. 96 49. 18 55. 78
Mississippi Oluo Missouri Louisiana Pennsylvania	79 309 130 43 134	9,315 6,818 6,370 4,913 3,799	7.1 5.2 4.9 3.7 2.9	53. 09 62. 48 52. 71 62. 32 43. 21
Virginia. Illimos North Carolina. All other States.	179 70 104 426	2, 982 2, 818 2, 327 9, 092	2.3 2.2 1.8 6.9	41.11 42.59 37.92 49.36
TUPELO.		•		
United States.	721	161, 055	100.0	\$33.68
Louisiana Alabama South Carolina Mississippi Arkansas	45 46 21 52 71	87, 038 12, 696 12, 278 8, 758 7, 685	54. 0 7. 9 7. 6 5. 4 4. 8	35. 09 36. 74 38. 54 27. 01 31. 73
Virginia North Carolina Tennessee Missouri Illinois	39 45 84 25 10	7, 639 4, 730 3, 583 3, 430 2, 494	4.8 2.9 2.2 2.1	32. 90 28. 99 22. 52
All other States	283	10,724	6.7	32, 22

Table 497.—Lumber production reported, 1920—Continued.

WALNUT.

	Number of active	Quantity	reported.	Average value per	
State.	mills report- ing.	M feet b. m.	Per cent.	1,000 feet f. o b mill.	
United States	1,076	32,704	100.0	\$88.92	
Missouri. Ohio Indiana Illinois. Kentucky.	69 150 165 28 137	6, 964 5, 589 4, 723 2, 445 2, 186	21. 3 17. 1 14. 4 7. 5 6. 7	64. 18 100. 72 94. 77 102. 14 83. 91	
Iowa. Tennessee. West Virginia. All other States.	21 104 88 314	2,112 1,392 1,008 6,287	6.5 4.2 3.1 19.2	59. 82 77. 98 58. 58 115. 09	
SYCAMORE	•				
United States	915	29, 256	100.0	\$32,12	
Arkansas Indiana Mississippi Missouri Tennessee	64 188 35 98 46	6,966 4,106 3,519 2,667 1,991	23. 8 14. 0 12. 0 9. 1 6. 8	36. 62 34. 54 31. 79 28. 56 31. 13	
Kentucky. Ohio North Carolina Illinois. All other States.	120 108 3 46 207	1,915 1,741 1,527 1,178 3,646	6. 6 6. 0 5. 2 4. 0 12. 5	27, 89 35, 38 29, 90 24, 73 28, 22	

Table 498.—Lumber production reported, 1920—Minor species.1

	,			
Kind of wood.	Number of active mills report- ing.	Quantity reported (M feet b. m.)	Average value per 1,000 feet f o. b. mill.	States reporting
Total		64, 158	\$100 89	
Mahogany Cherry	9 220	21,193 8,563	211 47 76 48	Louisiana, New York, Indiana, Illinois, Ohio West Virginia, New York, Pennsylvania, Ohio, In- diana, Tennessee, North Carolina, Michian, Vir- ginia, Kentucky, Vermont, Massachusetts, Arkan- ses Illinos Wiscognia, 1
Willow		7,480	32.18	sas. Ilinois, Wisconsin, Connecticut, Marvland. Louisiana, Mississippi, Arkatisas, New York, Wis- consin, Virginia.
Noble fir Pecan	(2) 51	6,397 3,990	33.53 38 17	Oregon. Louisiana, Arkansos, Mississipui, Oklahoria, Ten-
Buckeye	59	3,980	46 25	nessee, İllinois, Texas Tennessee, North Carolina, Virgima, West Virgini, Kentucky, Ohio
Magnolia Hackberry	31 57	3,879 1,974	36.00 29.69	Louisiana, Mississippi, Texas, Georgia, Alabama, Arkansas, Mississippi, Louisiana, Indiana, Illinois, Okiahoma, Missouri, Alabama, Tennessee, Ohio.
Locust	52	1,700	36 14	Pennsylvania, Indiana, Arkinasis, Louisiata, Maryland, Wect Virginia, Missouri, Mississippi, Tennessee, Virginia, Ohio, Kentucky, North Cutolina, Illimois.
AlderButternut	14 2 63	1,624 654	38 40 46,55	Washington, Oregon. West Virginia, Wisconsin, Indiana, New York, Virginia, Vermont, North Carolina, Minnesota, Pennsylvania, Tounessee, Ohio, Michigan, Kentucky.
Cucumber	19	616	49 09	West Virginia, Pennsylvania, New York, Ohio, Tennessee.
DogwoodLaurelPersummon	(2) (2) 16	603 500 399	75 00 60 00 85.49	Florida, Mississippi. California Aikansas, South Carolina, Florida, Mississippi, Georgia, Missouri, Louisiana.
Spanish cedar Bellwood Red bay Apple Holly Sassafras Chittum Box elder Boxwood Coffee tree Mulberry	(2) (2) (2) (2) (3) (4) (2)	234 117 93 72 31 15 15 14 13	140. 92 54 46 46 09 40. 00 111 13 41. 33 34 67 31. 28 3 100 00 3 30 00 3 30 00	New York, Louisiana, Olno Tennessee Georgia, Alabama, South Carolina. New York, Indiana. Massachusetts, Mississippi. Arkansas, Tennessee, Indiana. North Carolina, Tennessee.

Computed total production in the United States, 68,300 M feet.
 Less than 3 mills.
 Arbitrary value assigned.

Table 499.—Value of lumber produced, by States, 1840, 1850, and 1860, compared with 1920.

Otata and Manitaria		1840		1850		1860		1920		
States and Territories.	Rank	Value.	Rank.	Value.	Rank	Value.	Rank	Value		
United States		\$12,943,507		\$58,521,976		\$93, 338, 606		\$1,298,899,107		
AlabamaArizona Arkansas	20	169,008	16	1,103,481	17	1,873,484	8	45, 708, 992		
Arizona		176 617		100 010		1 157 000		4,539,865 56,722,932 60,459,480		
California	19	176, 617	20	122, 918 959, 485	8	1,155,902 3,943,881	6 5	50, 722, 932		
Colorado			40		_	'		2.008.300		
Connecticut		147,311		534, 794		572, 731		2,548,950		
Delaware		147, 311 5, 562 20, 346		534, 794 236, 863 391, 034		572, 731 276, 161 1, 476, 645		2,008,300 2,548,950 580,140		
Florida		20,346		391,034		1,476,645	13	37,934,110		
Arkansas. California Colorado Connecticut Delaware Florida Georgia Idaho		114,050		923, 403	12	2,412,996	18 14	23,600,564		
144440							11	37, 694, 200		
Illinois		203,666	11	1,324,484	10	2,543,985 4,271,605		2,215,269		
Indiana	8	420,791	6	2, 195, 351 470, 760	7	4,271,605		14 496 055		
Iowa		50, 280		470,760	16	2, 124, 502		583,011		
Kansas Kentucky		130, 329	8	1 502 434	11	1,550,737 2,463,085		17 697 948		
Louisiana		66, 106	13	1, 129, 677		1,575,995	2	137, 155, 200		
Louisiana Maine Maryland	2	1,838,683 226,977	3	5,872,573	4	6,598,565 2 626,989		583,011 1 617,737 17,627,246 137,155,200 18,398,784		
Maryland	14	226,977	7	2 614, 168		² 626, 989		2,865,888		
Massachusetts	11	314,845 392,325	5	1,502,434 1,129,677 5,872,573 2614,168 1,552,265 2,464,329	13 3	2,218,144 7,040,190	15	2,865,888 4,279,008 34,183,302		
Michigan	9	304, 340	0	2,404,329	٥	7,040,100	19	34, 183, 302		
Minnesota				57,800		1,234,203	20	20,850,534		
Mississippi Missouri	18	192, 794 70, 355	9-	913, 197	18	1,823,627	4	82, 421, 440		
Missouri		70,355	9	1,479,124	9	3,074,226		82, 421, 440 10, 293, 468 13, 509, 500		
Montana Nebraska	• • • • • • •					335, 340		13,509,500 1 13,568		
Nevada						000,040		(3)		
New Hampshire	7	433,217 271,591	17	1,099,492		1,20%,629		8,412,624		
New Jersey New Mexico	12	271, 591	14	1,099,492 1,123,052 20,000	20	1,608,610		8,412,624 983,027 4,265,120		
New Mexico New York	1	3,891,302	1	13, 126, 759	2	45, 150 9, 710, 945	• • • • • • •	4, 265, 120 19, 760, 181		
		' '			-			15,400,101		
North Carolina	6	506, 766 262, 821	18	985,075		1,074,003	10	41,901,587		
Ohio Oklahoma		262,821	4	3,864,452	5	5, 158, 076		12,914,280		
Oregon			10	1, 355, 500		690,008	3	121 707 500		
Pennsylvania	3	1, 150, 220	2	7,729,058	1	10,743,752	19	6,305,006 121,707,500 22,994,400 307,228 24,401,685		
Rhode Island South Carolina		44, 455		241,556		10, 743, 752 74, 592		307, 228		
South Carolina	5	537, 684	15	1,108,880	• • • • • •	1, 124, 440	17	24,401,685		
South Dakota Tennessee.	15	217,606		725, 387	15	2, 199, 703	16	33 227 278		
Texas		221,000		466,012	19	1,735,454	9	1, 849, 100 33, 227, 278 45, 312, 080		
YT1 - 7-				,						
Utah Vermont	10	248 020		14,620		119, 145		178,638		
Virginia	4	346, 939 538, 092	19	618,065 977,412	14	991,519 2,291,187	11	40 758 592		
Washington		000,002				1, 172, 520	î	190, 778, 250		
West Virginia 4							12	38, 556, 352		
Wisconsin	17	202, 239	12	1,218,516	6	4,377,880	7	6, 471, 430 40, 758, 592 190, 778, 250 38, 556, 352 46, 720, 392 193, 204		
Wyoming						• • • • • • • • • • • • • • • • • • • •		193,204		
STATE GROUPS.5					۰					
Northeastern	1	8,671,632	1	32,748,645	1	34,540,637 19,710,680 12,054,103 4,399,630 12,652,273 5,806,409 164,295		87,601,670		
Central	3	1,305,568 738,921	2	11,091,232 5,049,722 3,071,367	2	19,710,680	3	129, 259, 948 435, 160, 924 107, 061, 864		
Southern	4	738,921	2 3 5	5,049,722	4	12,054,103	1	435, 160, 924		
North Carolina pine Lake	2 5	1,582,542 594,564	4	3,071,367	3	12 659 979	4 5	107,001,804		
Pacific		504,004		2,314,985	5	5, 806, 409	2	102, 054, 228 372, 308, 230		
Rocky Mountain				34,620		164, 295		62,388,827		
All other		50,280		470, 760		4,010,579		3,063,416		

Proportional division for comparative purposes.
 Includes Distract of Columbia (product valued at \$29,000 in 1850 and \$21,125 in 1860).
 Included with California.
 Part of Virginia prior to 1870.
 Distribution of States same as shown in Table 495.

TABLE 500 .- Causes of forest fires.

SUMMARY BY GROUPS OF STATES.

United States (continential, exclusive of deyear average, 2 and per cent. 2 and per cent. 3 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 and per cent. 4 an					3	Numbe	er of fir	es by c	ause .			
Northeastern group	Group.	Year, average, and per cent	Lightning.	Raılroads.	Lumbering	Brush burning	Campers	Incendiary.	Miseellaneous.	Unknown.	Total.	Per cent
(a) Softwood subgroup (b) Hard wood subgroup (c) Southeastern group	nental, exclusive of Alaska). Northeastern	6-year average	2, 188 3, 006 9. 0	5, 515 4, 987 11 9	1,826 1,973 5.9	4, 358 4, 431 13. 2	7,638 4,696 14.0	5, 336 4, 253 12 7	2, 804 2, 002 6. 2	8, 770 8, 078 24. 1	33, 516	
Subgroup Appalachian group. 1, 20, 30, 4, 40, 30, 40, 40, 41, 41, 42, 42, 42, 42, 42, 42, 42, 42, 42, 42	(a) Softwood	6-year average	32	463 38 1	$\frac{25}{2.1}$	$\frac{94}{7.7}$	$\frac{273}{22}$ 5	22 1. 8	$\frac{128}{10.5}$	178 14.7	1,215 100	3.6
Southeastern group G-year average. 17 800 190 392 231 206 172 1017 3056 9.1		6-year average Per cent	i	34 5	6	364 10 4	$\frac{255}{7}$	$\frac{46}{1.3}$	391 11 1	1,231	3,505	10.5
East Mississippi group. West Mississippi group. West Mississippi group. Lake States group. Lake States group. Frairie group. Prairie group. Rocky Mountain group. (b) Southern subgroup. (c) Southern subgroup. (d) Northern subgroup. (e) Per cent. Subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (e) Southern subgroup. (f) Southern subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (g) Softwood subgroup. (h) Softwood subgroup. (e) Softwood subgroup. (e) Softwood subgroup. (e) Softwood subgroup. (e) Softwood subgroup. (e) Softwood subgroup. (e) Softwood subgroup. (e	Appalachian group.	6-year average	17	800	190	392	231	206	266 173	1,355		9.1
Group. G-year average. 68 276 115 287 201 154 65 350 1,516 4.5	Southeastern group	6-year average	269 435 4. 2	945 9 0	1,053 958 9,2	1, 551 1, 765 16. 8	2, 706 1, 334 12. 7	2, 727 2, 191 20. 9	569	12.284	12,070 10, 181 100	31.4
Rocky Mountain Government	group.	6-year average Per cent	68 4.5	276 18 2	115 7. 6	287 18. 9	201 13. 3	154 10 1	65 4 3	350 23.1	1,510	4.5
Lake States group 1921		6-year average	91 2. 2	309 7. 3	$\frac{241}{57}$	630 14.9	572 13 5	22.2	12b 3 0	1,319	4,221	12.6
Rocky Mountain G-year average. 47	Lake States group.	6-year average	10	$\frac{326}{22.2}$	42 2 9	267 18, 2	138 9 4	18 1. 2	173 11.8	493 33.6	1,467	4.4
Rocky Mountain group—	Prairie group	6-year average	47	6	3	6	7	1	. €	14	1 9	.3
Subgroup G-year average 39.7 30.7 52 183 430 10.1 70 275 2,355 7.0	Rocky Mountain											
(b) Southern subgroup. Pacific group	(a) Northern	6-vear average	937 39.8	307 13.0	52 2, 2	183 7.8	430 18. 2	101 4. 3	3.0	275	2,35	7.0
G-year average		6-year average Per cent	284 35. 2	90 11.1	53	37	146 18, 1	18 2. 2	6.5	128	80	7 2.4
Northeastern group. (a) Softwood subgroup— 1921.	Pacific group	6-year average	1, 084 22, 6	257 5. 3	288	406	1, 732 1, 109 23. 1	560 11.7	340	756	4,80	14.3
(a) Softwood subgroup— Maine 1. 1921		<u></u>			ATES.							
Maine 1 921 37 37 39 15 21 36 30 37 38 32 137 11.3 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 31 36 36	(a) Softwood sub-											
New Hampshire.2 6 282 9 50 88 34 149 618 30 0 6 62 62 62 62 62 62	Maine 1	6-year average.	9	17	11	9. 5	36 26. 3	0.7	5.8	30.7	130	7 11.3
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	New Hamp- shire.2	6-year average.	0.7	282 342 58.7	1.5	34 5.8	47	4	5.	117	58 100.	3 48.0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Vermont 2	6-year average.	1, 2	16 19, 1	1.2	21.4	16 7		1	28.6	8 100.	4 69
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	New York 1	6-year average	18	141	4	29	176	12	8	3 1	L 41	1 33.8
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	(b) Hardwood sub											20.7
Rhode Island ² 1921. 111 7 4 4 5 20 68 1.7 6 9ear average. 6 7 7 2 4 2 10.4 54.1 100.0 Per cent 12.5 14.6 4.2 4.2 10.4 54.1 100.0 226 80 31 4 102 246 689 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b.3 69 1b	Massachusetts ²	6-year average	1 1	677 33. 6	0.2	221	170	30	200	35	3 100.	Λi
Connecticut 2. 1921	Rhode Island	2 1921		12.5		14.	7 2 5 4.2	4.	10.	5 2 4 54.	6 4 1 100.	8 1.4
1 State official records prior to 1920 covered only stipulated forest fire protection districts—in Maine designated "Maine forestry district" and in New York "Fire towns," since 1920 additional protection areas		6-year average		278		6	3 1	1	11	0 25	91 73 4 100.	2 20.0
have been engenized and mesenda entended a ser-	1 State official record	s prior to 1920 cov y district" and i	ered o	nly str York	pulate ''Fire 	d fores towns	t fire p ," since	rotecti 3 1920	on dis additio	tricts- onal pi	-in Ma otection	ine des- on areas

Table 500.—Causes of forest fires—Continued. BY STATES-Continued.

					Numb	er of fir	es by	causes.			
Group.	Year, average, and per cent.	Lightming.	Railroads.	Lumbering.	Brush burning	Campers.	Incendiary.	Miscellaneous.	Unknown	Total.	Per cent.
Northeastern group— Continued. (b) Hardwood sub- group—Contd. New Jersey 1	19216-year average		337 217	1	83 73	3. 71	4 4	134 76	305 239	896 711	20, 0
Appalachian group: Pennsylvania 1	Per cent	11	34.7 997 533	0. 1 13 36	10.3 135 111	10.0 48 154	0.6 103 108	10.7 157 66	33. 6 920	100.0	
Delaware 2	Per cent 1921. 6-year average . Per cent	0.4	34. 4 1 16. 7	2.2	6.9	9.6	6.7	4.1	574 35.7 4 5 83.3	100.0 4 6	0. i 0. 2
Maryland 1	1921. 6-year average Per cent		29 22 14.3	9 6 3 9	41 22 14.3	38 29 18.8	35 29 18.8	3 3 2.0	63 43 2 7 9	218 154	6. i
Vırginia 5	6-year average Per cent	3 9 0.8	73 192 17. 7	$\begin{array}{c} 35 \\ 134 \\ 12 \end{array}$	$\begin{array}{c} 117 \\ 240 \\ 22.1 \end{array}$	13 43 4.0	$\frac{46}{42}$ 3.9	106 99 9.1	267 325 30 0	660 1,084 100.0	18 6 35.5
West Virginia 3	6-year average Per cent	5 1 0.5	41 32 15.7	28 14 6.9	15 19 9.4	20 5 2. 5	74 27 13. 3	2, 5	99 100 4 9. 2	282 203 100. 0	6.6
Southeasern group North Carolina 4	1921 6-year average. Per cent	17 12 0. 7	207 228 13. 9	102 168 10.3	293 375 22. 9	258 179 10 9	73 76 4.7	145 98 6.0	537 500 3 0 6		15.6
South Carolina 2	6-year average Per cent	87 23 2. 7	239 64 7. 6 79	147 70 8.3	440 206 24.5	322 110 13. 1	353 117 13. 9	242 105 12. 5	422 146 17. 4	2, 252 841 100. 0	18. 7 8. 0
Georgia 2	6-year average. Per cent.	51 315 8.2	79 222 5 8 73	134 222 5. 8	235 619 16. 2	1,090 458 12.0	954 1,002 26.1	54 174 4. 5	326 819 21. 4	3.831 100.0	36.6
Florida 2	6-year average Per cent	11 15 1.1 44	113 7. 9 109	399 171 12. 0 72	98 167 11. 7 151	241 163 11. 5 161	949 581 41.1 228	93 45 3. 2 110	124 164 11, 5 533	1,422	13.6
Mississippi 2	6-year average Per cent 1921	3.1 59	192 13. 4 170	195 13. 7 199	203 14. 2 334	191 13. 4 631	211 14.8 170	93 6. 5 68	299 20, 9 236	1, 428 100. 0 1, 870	13. 6
East Mississippi group:	6-year average Per cent	26 2.0 5 4	126 9. 5 5 34	132 10. 0 5 23	195 14. 7 5 12	233 17. 6 6 17	201 15, 2 5 61	54 4.1	356 26, 9 5 82	1,323 100.0 5 233	12.6
Indiana 2	6-year average Por cent	16 6.9 28	52 22. 3 20	20 8.6 2	36 15. 4 32	17 7. 3 25	30 12.8 2	11 4. 7	51 21. 9 22	233	15.4
Illunois 2	6-year average Per cent 1921 6-year average	19 8.8 5 26 20	56 26. 1 5 19 49	0.5 5 2 7	20.9 5 30	36 16.7 5 23 26	4.2 5 2 10	3.3 8	42 19. 5 5 20	5 122	
Kentucky 2	Per cent	10.3 17	25. 1 45 18	3. 6 25 6	21. 0 80 46	13.3 50 20	5. 1 38 10	4.1 31 9	34 17. 5 66 29	195 100. 0 352 141	
Tennessee 5	6-year average Per cent 1921 6-year average Per cent	21.0 1 10 1.4	12. 8 19 101 13. 8	4.2 7 81 11.0	32.6 17 119	14. 2 26 102 13. 9	7. 1 45 95 13. 0	6. 4 6 30	20.6 67 194	100. 0 188 732	18. 3 48. 2
West Mississippi group: Missouri 2	1921 6-year average.		46 91	11.0 12 76	16.3 364 323	13. 9 447 217	783 483	4. 1 17 31	26. 5 267 272	2,060 1,557	
Arkansas 2	Per cent. 1921 6-year average. Per cent.	4.1 4 4	5. 8 46 60 5. 4	4.9 6 32 2.9	20. 8 31 153 13. 8	13. 9 34 154 13. 8	31. 0 357 343 30. 8	2, 0 19 33 3, 0	17. 5 226 333 29. 9	100. 0 723 1, 112	14.2 26.3

1 Based on official State and Federal records for the entire forest area of the State.
2 No State organized protection; estimates secured from volunteer reporters or general averages.
3 Official records cover a portion of the forest area of the State.
4 Official records supplemented by estimates secured from volunteer reporters in localities where no organized protection exists.

Table 500.—Causes of forest fires—Continued.

BY STATES-Continued.

DI SILIES—Commune.											
				1	Numbe.	r of fire	es by c.	adoto.			
Group.	Year, average, and per cent.	Lightning.	Rath oads.	Lumbering.	Brush burning	Campers.	Іпеендізіу	Mi cellant ous.	Unknown.	Total.	Per Cent.
West Mississippi group—Continued Oklahoma 1 Louisiana 2 Texas 3	1921 6-year average Per cent 1921 6-year average Per cent 1921 6-year average Per cent	25 19 5. 0 1 0. 2 4 3 0. 5	57 78 20. 8 72 38 6. 1 77 42 7. 6	16 4.3 80 51 8.1 133 66 12.0	50 83 22.1 8 16 2 5 61 55 10.0	45 48 12 8 218 66 10. 5 217 87 15. 8	2\7 7.30 52 8.3 92 81 5.6	21 16 4.3 42 27 4 3 49 19 3.4	47 88 24. 5 317 377 60 6 614 249 45 1	275 37.5 100. 0 767 628 100. 0 1, 277 552 100. 0	15. 0 11. 9 25. 0 13. 1
Lake States group: Michigan 3	1921 6-year average Per cent	17 7 1. 0	153 139 20. 2	56 18 2. 6 2	222 139 20, 2 29	262 84 12 2 13	17 11 1.6	103 97 14. 1	168 193 28.1 75	1, 025 688 100. 0	50.1 46.9
Wisconsin 3	1921 6-year average. Per cent 1921 6-year average. Per cent	9 3 0.4	21 21, 4 204 166 24, 4	2 0 2 0 22 3 2	17 17. 4 205 111 16. 3	7 7. 2 39 47 6. 9	1. 0 5 6	4. 1 130 72 10. 6	46 46 9 290 254 37. 3	98 100, 0 888 681	6.7 43.2 45.4
Prairie group. South Dakota 3	1921 6-year average	35 44 51, 2	6 6 7.0	4 3 3.5	11 6 7.0	20 7 8.1	3 1	8 6 7. 0	14 13	101 80 100, 0	98.1 95.6
Nebraska ¹	Per cent 1921 6-year average Per cent	75.0			1				25. 0	2	1.9 4.4
Rocky Mountain group (a) Northern sub-											
group— Montana ²	6-year average Per ceni	207 318 31.4	19.3	14 1.4	96 9. 5	191 18. 9	55 5. 4	2 8	114 11.3	100.0	2 43.0
Idaho ² - Wyoming ³	6 year average 6 year average 1921	10 16	74 5. 9 28 38	38 3.0 1	84 6.7 3	215 17, 2 62 24	3.7	37 3 0 6 4	152 12. 2 4 9	1,249 100.0 115 9	53.0 5.1 4.0
(b) Southern sub-	Per cent	17 0	40 4		3.2	25. 5		4.3	9.6	100.1	/
group— Colorado 3	6-vear average		54 31. 2	2.3	13 7. 5	42 24. 3	0.6	12 6 9	22 12.7	100.0	21.4
Arizona 3	Per cent 1921 6-year average Per cent	90 196 47.7	21	40	10	57	6	23 5 6	58 14.1	100.0	50.9
New Mexico3		35 58	3 11	8	10 5.4	58 36 19.6	9	13	39 21.2	100.	22.8
Nevada 3					20.0	20.0			1	100.)
Utah 3		1 4	4	1 1 3.4	2	9	1		6		3.6
Pacific group' Washington 4	19216-year average	57 141	124	168	105	33€	39	149	138	1,20	25.0
Oregon 4	Per cent 1921 6-year average. Per cent	448	100	52 68	170	688 389 21.3	357 357 3 19.5	68	76 3 261 7 14.3	1,94 1,82 100	7 38.2 9 38.1
California 4		500	140) 40 2 52	244	743 384	183	1 12	357	1 77	1 36.9

¹ No State organized protection, estimates secured from volunteer reporters or general averages.
² Official records supplemented by estimates secured from volunteer reporters in localities where no organized protection exists.

Table 501.—Size, damage, and area of forest fires—Summary by groups and States.

BY GROUPS.

Area burned—acres. Per cent.
Total. ² Forest land.
Improve- Total. ² Total. ² R.1.963,152 R.1.650, 16, 434, 346
Timber.1 \$10,092,591 {\$10,237,726}
Total. 38, 435 33, 516
es— Over \$1,000.
S100- \$1,000.
to 10 Cress. Under \$100.
1 to 10 acres.
Under 4 sere
average.

		Forest Statistics.
8.0.23		588 9 589 9 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
7.3		689 111.5 111.5 111.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 112.5 11
22, 378 31, 443 100. 0 760, 850 868, 222 100. 0		68, 559 23, 496 100. 0 7,580 6,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1,580 1
15,942 21,863 79 1 63,907 281,636 32.4		66,059 18,775 79 96 6,969 6,104 61.06 1,104 1,104 1,104 21,657 1,664 1,064 1,108 21,67 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108 1,108
14, 331 17, 422 100. 0 867, 548 1, 461, 669 100. 0	•	521, 391 160, 0 160, 0 11, 806 11,
8 341, 758 458, 987 31. 4		13,107 13,107 15,358 11,5358 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,580 11,58
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620 807 100.0 5,096 4,800 100.0		2, 841 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0
9 5 0 6 145 137 2.8	BY STATES.	44 101 1111 1111 1111 1111 1111 1111 111
13 20 2.5 355 355 7.4	B	24, 28, 28, 28, 28, 28, 28, 28, 28, 28, 28
78 - 111 13.7 1,048 1,330 27.7		42 15.33 36.52 52.52 88.9 17.33 87.17 17.33 87.20 90.9 12.51 191 12.51 191 191 20.9 20.9 20.9 20.9 20.9 20.9 20.9 20.9
222 249 30.9 1,818 1,473 30.7		167 42.4 41.4 41.4 41.4 63.86 63.86 19.8 19.7 1, 20.8 60.0 60.0 60.0 24 28 27 1, 20.8 60.0 63 83 83 83 83 84 84 83 83 84 84 84 84 84 85 85 86 86 86 86 86 86 86 86 86 86 86 86 86
298 422 52.3 1,727 1,505 31.4		28 103 104 105 105 105 105 105 105 105 105 105 105
6-year average. Per cent 1921 6-year average Per cent		6-year average. 1921. 6-year average. 1921. 6-year average. 1921. 1921. 1921. 1921. 1921. 1921. 1921. 6-year average. Per cent. 1921. 6-year average. Per cent. 1921. 6-year average. Per cent. 1921. 6-year average. Per cent. 1921. 6-year average. Per cent. 1921. 6-year average. Per cent. 1921. 6-year average. Per cent. 1921. 6-year average. Per cent. 1921.
(b) Southern subgroup. Pacific group		Artheastern group: (a) Softwood s u b - (b) Maine 4

1 Includes damage to young growth and forage when reported

These starts as that through decay of damage transfer and inclined damage resulting from forest fires such as that through decay of damaged tumber, replacemen

desirable species of trees by less desirable but more fire-resistant ones, soil deterioration and crossion, loss of which life, uncertain flow, interrupted tourier triaffe, and thuse.

Based on official State and Federal root the entire forest area of the State.

State official roots prior to 1920 covered only simulated forest-fire protection distincts

In Manne designated "Manne Forestry Distinct," since 1920 additional protection areas

been organized and records extended accordingly.

BY STATES—Continued.

		1 00	100016	of the .	U,U _E	101 L 1	10016	0).	.1 <i>91</i>		0000				
	Per cent	Total	area burned.	47.4	0.1	7.8	40.5	4.3	7.1	7.5	18.6 8.8	24.6	37.2	66	5 9 13 0
	Per	į	age.	29.2 38.5	0.4	9.2	54.3	7.3	19.0	32.3	18 0	23.0	20.4	9.1	10.5
	ed-acres.		Total.	186, 561 211, 818 100. 0	302	30,850 22,156	159,603 212,136	100.0 16,771 49,190	271, 430	337,737	707,183 398,825	100 0 933,716 997,581	1, 112, 637 1, 540, 044	252, 921 535, 506	222, 717 727, 532 100.0
	A1ca burned—acres	F	land.	95,621 149,448 87.0	197	30,850 30,850 18,796	24.8 116,240 190,421	89.8 11,900 37,472	~				Ħ,		01.0 138, 105 299, 587
-	1		Total.	\$326, 292 479, 943 100. 0	4,516	103, 110 57, 188	607, 019 640, 225	100.0 81,119 63,396	1,093,500	1,497,732	1,035,862 328,425	1,324,837	1,170,294 987,056	100 523, 758 451, 344	100.0 600,941 439,000 100.0
	Damage to-	j	ments.	\$25,919 60,854 12.7		3,422 4,388	148,602 93,236	14.6 1,500 5,819	366,500	412,714	129,537	14.0 88,633 143.094	15.3 61,930 29,063	2.9 127,240 53,605	74, 970 40, 129 9. 1
			Timber.1	\$300, 373 419, 089 87. 3	4,516	99,688 52,800	458,417 546,989	85.4 79,619 57,577		٦,		1,	<u> </u>		525,971 398,871 90.9
			Total.	2,384 1,609 100.0	4.00	218	1,084	100.0 282 203 203	1,632	1,636	2,252	2,923 3,831	100.0 1,985 1,422	1,408	1,870
	lamage.	1	Over \$1,000.	64 74 4,6		22.22	75.8	6.9 26.9 13	6.4 6.63	3.4	6 87 30	9.6 6 113 106	2.8 5.77 52	8 7 5 5 5 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6.5 6.72 45 3.4
	y size and	Over 10 actes	\$100-	384 381 23.7	20°	. 63 . 63 . 63	31.2 312 351	32.4 185 90	5 217	188	103	12.2 5 389 378	5 264 165	11.6 5.187 170	6.249 152 11.5
	Number of fires by size and damage.	0	Under \$100.	650 429 26. 7	9 2	25.5 52.0 45.0	286 286	26.4 52.4 81.0	5 340	407	6 469 195	5 608 947	24.7 5 413 373	26.2 250 350	5 389 321 24.2
	Numbe		acres.	1,081 615 38.2	27.7	63 411	324	29.0	6 640	33.7	884	51,147 1,358	35.4 5.779 494	5.53 5.53 5.10	5 734 476 36.0
			acre,	205		13	28.38	4.4	5 372	434	5513	24.0 5 636 1.042	27.2 5 452 338	23.8 5 321 348	24.96 24.96
	,	Year, average, and per cent.		1921 6-year average Per cent.	6-year average	1921 6-year average.	1921 6-year average	Fer cent. 1921 6-year average.	1921	6-year average Per cent	1921 6-year average	Per cent. 1921 6-year average		Per cent 1921 6-year average	1921 6-year average Per cent
		Group.		palachian group: Penusylvania	Delaware 1	Maryland 7	Virginia 6	West Virgina 7	theastern group: North Carolina *	;	South Carolina 4	Georgia 4	Florida 4	Alabama 4	Mississippi 4

Yearbook of the Department of Agriculture, 1922.

1 Includes damage to young growth and forage when reported.

2 These totals do not take into account the vast amount of intangule and indirect damage resulting from forest fites such as that through decay of damaged tumber, replace at the black into account the vast amount of intangules not ones, sed deterioration and erosion, lows of wild life, uncertain stream flow, interrupted tounts t trains, a Based on official State and Federal records for the entire forest area of the State.

7 No State organized protection, estimates secured from volunteer reports or general averages.

8 Estimates based on average—local it the data are available, otherwise general.

9 Official records supplemented by estimates secured from volunteer reports in localities where no organized protection exists.

7 Official records cover a portion of the forest area of the State.

Table 501.—Size, damage, and area of forest fires—Summary by groups and States—Continued.

BY STATES-Continued.

		Yea	rbook	of the Depar	tment of Agricu	lture, 1922.
	Per cent.	Total	area burned.	9.0 17.0 91.0 83.0	45 9 32.0 53.4 56.6 1.7	9.1 65.0 65.0 53.2 21.4 36.0
	Per (T.	age.	99.6 87.9 .4 12.1	40.8 32.8 57.8 63.3 3.9	3.9 11 5 11 5 81.1 43.2 38.5 38.5 1.77
	ed—acres		Total	2,641 1,315 100.0 26,560 6,430 100.0	29, 349 128, 669 100 0 34, 201 267, 228 100 0 457 5, 687	2,045 2,000 1,000 1,4,586 1,712 100 1,712 100 1,712 100 1,712 100 1,712 100 1,712 100 1,712 100 100 100 100 100 100 100 100 100 1
	Area burned—acres	Forest land.		646 875 66.5	17, 373 100, 837 78, 4 29, 278 194, 632 72, 8 155 4, 301 75, 6	1,174 1,193 59,6 11,094 13,557 81 2 3,628 9,719 85,8 85,8 85,6 85,8 85,7 85,7 85,7 85,7 85,7 85,7 85,7
			Total.2	\$716 5,802 100.0 795 100.0	34, 283 354, 033 100. 0 48, 589 683, 880 100. 0 1, 179 41, 693	557 2,005 100.00 11,617 7,629 1,830 6,701 100.0 1,890 6,701 100.0
	Damage to—	1	ments.	\$4, 253 73, 3	1,483 1,483 0.4 1,507 8,618 9	81-
	I		Timber.	\$716 1,549 26 7 3 7 798 100.0	34, 170 352, 550 99 6 47, 262 675, 262 98. 7 1, 179 41, 684	2,005 100.0 11,017 7,629 1,000 1,890 6,701 100 0 1,100 100 0 31 233 233
	amage.		Total.	101 86 100.0 2 2 4 100.0	1, 011 1, 012 100 0 1, 145 1, 249 100 0 115 94	154 173 100. 0 293 411 100. 0 146 184 100. 0 184 100. 0
		ļ	Over \$1,000.	1.1	10 377 3.77 19 3.88 3.2	11 0 0 11
	Number of fires by size and damage	Over 10 acres—	\$100- \$1,000.	හ. අභාව	38 22 24 24 11.6 44.8	9 4 69 64 44 44 7 7 7 7 7 8
	r of fires b	Ó	Under \$100.	9 10.5 1 2 20.0	94 111.3 121 127 10.2 8 8 5.3	19 22 22 27 27 40 10,0 28 20,2 21,7 21,7 21,7
	Numpe	, ,	acres.	54 35 40.7 25.0	268 302 29. 8 285 388 31. 1 9 9 15 15 9	53 66 38.2 101 105 105 25 55 55 54 84 84 84 84 86 86 86 86 86 86 86 86 86 86
			Under ‡ acre.	34 38 44, 2 1 25, 0	603 506 50 0 693 622 49.8 95 67	78 80 46.2 155 255 82.3 66 56 38 8 8 4 4 40.0
		Year, average, and per cent.	1	1921	1921 G-year average. 1921 G-year average. P-gr cent. 1921 G-year average. Per cent.	1921
		Group.	_	arie group. South Dakota 3 Nebraska 4		Group— Colorado 3 Arizona 3 New Mexico 3 Nevada 3

				Fc
4.2. 4.8	9.4	5.1 25.8	85 5 51.6	replace-
4.5	17.4 35.7	9.8 32.0	72.8	timber, id tourist
992 892	71,724	38, 402 223, 717	650,724 448,182 100.0	damaged , interrupte
40 348 39.0	24, 867 53, 671	8, 892 116, 651 52, 1	30, 148 111, 314 24.8	gh decay or
236 796 100.0	150, 955 522, 047 100. 0	85,314 468,129 100 0	631, 279 471, 493 100.0	that throu
	74, 022 260, 584 49 9	77, 99S 97, 681 20 9	189, 738 100, 722 21. 4	ires such as f wild life,
236 796 100.0	76, 933 261, 463 50 J	7,316 370,448 79 1	441, 541 370, 771 78.6	rom forest f
19 29 100.0	1,200 100.0	1,947 1,829 100 0	2, 245 1, 771 100.0	resulting fin and eroges.
	30 4.3	7.73	103 54 3.0	ct damage leterioratic neral avera
. 6 . 9	43 115 9.6	188.4.	157 8.9	nd indirenes, soil or rts or gen
3 6	166 310 25.8	32 4 592	24.28	rth and forage when reported. yount the vast amount of intengible and indirect damage resuless desirable but more fire-resistant ones, soil deterioration a of the forest area of the State estimates secured from volinteer reports or general averages, least records for the entire forest area of the State.
34.5	24.0 24.0 24.0	616 33.7 76.4	569 32 1	hen report mount of i t more fire a of the St d from vol
11 37.9	445 436 36.3		563 31.8	rth and forage when reported. rount the vast amount of intages desirable but more fire-res of the forest area of the State estimates secured from volunt eral records for the entire fore
6-year average Per cent	1921 6-year average Per cent	6-year average Per cent. 1921	6-year average Per cent	young growth an young growth and of trees by less de trees by less de trees by less de trees by less de trees by less de trees by less de trees de
Utah s	Washington 6 Oregon 5.	California 5	6-year averag Per cent	Includes damage to young growth and forage when reported. 2 These totals do not take into account the vast amount of intangible and indirect damage resulting from forest fires such as that through decay of damaged timber, replaced the late forest area of the State 3 Official records cover a portion of the forest area of the State 4 No State organized profection: estimates secured from volunteer reports or general averages. 6 Based on official State and Federal records for the entire forest area of the State.

Table 502.—National forest areas, by States, June 30, 1922.

State.	Net area.	State.	Net area.	State.	Net area.
Alabama. Alasko. Arizona. Arkansas California Colorado. Florida Georgia Idaho. Maine. Michigan Minnesota	20, 573, 444 11, 267, 640 914, 091 19, 181, 508 13, 291, 280 320, 273 144, 668 18, 752, 625 32, 164	Montana. Nebraska Nevada. New Hampshire New Mexico. North Carolina. Oklahoma Oregon. Porto Rico. South Carolina. South Dakota. Tennessee.		Utah. Virginia. Washington. West Virginia. Wyoming. Aggregate for the 148 na- tional for- ests.	9, 934, 275

Table 503.—State forests, State parks, and other State forest land 1

State	State forests.	State parks.	Other State forest land ²	State.	State forests.	State parks	Other State forest land.2
Alabama Arizona California Colorado Connecticut Florida Idaho Illinois Indiana Iowa Kansas Maine Matyland Massachusetts Michigan Minnesota Missouri Montana	6,529 685,000 2,851 3,835 50,353 338,000 381,000	13,000 10,000 5,068	Acres. 175,000 31,130 44,845 120,000 2,500 227,340 385,000 20,000 300,000 350,000 106,000	New Hampshire. New Jersey New Mexico Now York North Catolina North Dakota Orlio Oregon Pennsylvania Rhode Island South Dakota Tennessee Vermont Virginia Washington Wisconsin	1,992,516 300 20,371 1,126,237 61,440	33,962 1,225 250 200 800 1,410	A cres. 950 170,000 20,375 2,200 22,900 74,000 46,754 26,400 12,000 1,500 800,000

¹ This table was prepared from information furnished for the most part by State forestry departments supplemented by data from other State officials and municipal officers.

² Lands connected with State institutions, forested lands managed by the State including Federal grant lands of various sorts.

Table 504.—Municipal and county forests, by States.

State.	Area in acres.	State.	Area in acres.	State.	Area in acres
Alabama California Colorado Connecticut District of Columbia Idaho Illmois Kansas Maine Maryland	7,640 29,630 14,322 1,632 160 25,000 200 803	Massachusetts. Michigan Minnesota Nebraska. New Hampshire New Hampshire New Jersey New York North Carolina Ohio Oregon	8,056 36,100 169,000	Pennsylvania Rhode Island Texas Utah Vermont Virginia Washington Total	310 1,710 1,845

Table 505.—Forest planting—total area planted to 1922.1

	-				State	group.				
Class of owner.	New Eng- land ²	Middle At- lantic 3	Central Hard- woods.4	Lake.5	South	Gulf	Plains and Prai- rie 8	Rocky Moun- tain 9	Pacific Coast 10	Total.
States Farmers and estate	Acres. 15,000	Acres 53,626	A cres. 455	A cres 16,810	A cres 23	Acres 30	Acres.	Acres. 100	Acres.	A cres. 86,104
owners Large timberland	32,400	32,775	24,169	172,850	5,043	2,825	760,900	14,725	40,000	1,085,687
owners and opera- tors and wood-us- ing industries Railroads Pulp companies Mining companies Municipalities Others	12,600 62 1,650 0 10,700 1,800	9,950	5 918 500 1,245 1,060	2,470 9 0 125 0 100	300 58 300 5 1,000 458	4,800 1,300 0 0 300	50 1,510 0 0 0		50 1,200 1,150 0 0 10,000	15,007 8,600 3,375 33,715
Total	74,212	127,026	28,352	192,364		9,255	762,480	14,905		1,268,241
			······································	Area	being]	planted	yearly.	·		
States	1,925	3,410	40	1,650	2	0	0	25	0	7,052
ownersLarge timberland owners and opera-	2,085	4,850	435	700	69	310	3,500	342	1,500	13,791
tors and wood-us- ing industries	1,150 0 241 0 650 200	1,000 1,000 400 600 1,500	0 4 0 26 25 0	0	25 0 0 0 100 0	500 0 0 0 0	3 6 0 0 0	0 0 0 0 0	0 0 0 0 0	1,678 1,010 1,241 426 1,375 1,700
Total	6,251	12,760	530	2,350	196	810	3,509	367	1,500	28,273

¹ Total planted by Federal agencies (Forest Service), 180,000 acres; planted yearly, 7,500 acres. Grand total planted by all agencies to date, 1,448,241 acres, planted yearly, 35,773 acros

2 Maine, New Hampshire, Vermoni, Massachusetts, Rhode Island, Connecticut.

3 New York, New Jersey, Pennsylvama.

4 Ohio, Indiana, Illinois, Kentucky, Tennessee, Arkansas, Missouni

Michigan, Wisconsin, Minnesota.

5 Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

7 Alabama, Mississippi, Louisiana, Texas.

8 North Dakota, South Dakota, Iowa, Nebraska, Kansas, Oklahoma.

9 Idaho, Montana, Wyoming, Nevada, Utah, Colorado, Arizona, New Mexico.

10 Washington, Oregon, Califorma.

Table 506.—State, municipal, and private forest planting, by regions, to January, 1923.

	Area planted to date	Per cent of total	Area now being planted yearly.	Per cent of total.
	Acres		Acres.	
New England States	74,212	5 9	6,251	22.1
Middle Atlantic States	127,026	10 0	12,760	45 1
Central Hardwood States.	28,352	2 2	530	
Lake States		15 2	2,350	1 9 8 3
South Atlantic States		6	196	.7
Gulf Coast States.		.7	810	2 9
Plains and Prairie States.	762, 480	60 1	3,509	12.4
		1 2	367	1.3
Rocky Mountain States	52,460	41	1,500	5.3
Pacific Coast States	52,400	4.1	1,500	0.0
m + 1	1,268,241		28,273	
Total	1,200,241		20,213	

¹ A large portion of this acreage is in the plains or prairie region.

FOREST PLANTING, BY CLASSES OF LANDOWNERS.

Federal Government	180,000	12.4	7,500	21.0
State governments		6.0	7,052	19 7
Farmers and estate owners	1,085,687	75.0	13, 791	38 6
Large timberland owners and operators and wood-using	.,,		,	
industries.	20,275	14	1,678	4.7
Railroads	15,007	10	1,010	2.8 3.5
Pulp companies	8,600	.6	1.241	3 5
Mining companies.	3,375	.2	426	1.2
Municipalities.	33,715	2 3	1,375	3 8
Other	15,478	1.1	1,700	4.7
O DITCL	20,110			
Total	1.448,241		35 773	_

Table 507.—Forests: Present and possible annual growth by timber regions 1

In millions l'

73	Character of forest man-	Growing		
Timber region. ²	agement.3	area.4	Total.	Saw tımber.
Totals, entire United States	Present Crude, 1950. Crude, ultimately Intensive	A cres. 250 2 352. 8 469. 5 469. 5	Cubic feet. 6,039 10,146 13,878 27,408	Board feet. 9,874 11,370 26,170 69,800
EAS	TERN UNITED STATE	s.		
Spiuce, fir. Northeast.	Present Crude, 1950 Crude, ultimately	8.8 11.0 13.4	176 275 335	264 260 470
Lake States	Intensive. Present. Crude, 1950. Crude, ultimately. Intensive.	13.4 1.5 4.0 4.5 4.5	603 23 80 90 158	1,000 23 40 90 200
Birch, beech, maple: Northeast	Present Crude, 1950 Crude, ultimately	16. 5 20. 2 23. 4	413 606 702	495 500 820
Lake States	Intensive Present Crude, 1950 Crude, ultimately Intensive	23. 4 7. 5 18. 0 19. 7 19. 7	1,404 150 540 591 1,182	2,000 300 450 800
Pine: Northeast	Present	4.5 4.8	180 216 234	1,900 540 600 680
Lake States	Intensive	5 2 7. 5 11 0 18. 3	520 173 440 732	1,900 450 600 1,800
Oak, chestnut, yellow poplar	Intensive Present Crude, 1950 Crude, ultimately	18 3 42.7 51.0 56 4	1, 464 1, 068 1, 530 1, 692	4,000 1,708 1,700 2,200
Oak, pine	Intensive. Present. Crude, 1950. Crude, ulumately Intensive.	56. 4 39. 1 51. 0 56. 1 56. 1	3,384 860 1,377 1,515 3,617	8,000 1,173 1,300 1,700 8,500
Southern pine	Present. Crude, 1950. Crude, ultimately Intensive.	27. 7 40. 0 57. 5 57. 5	1,600 2,300 3,738	1, 108 1, 800 3, 400 9, 500
Southern and cypress hardwoods	Present Crude, 1950 Crude, ultimately Intensive	19. 6 31. 4 33. 9 33. 9	333 534 576 1,695	686 800 1,200 3,500
Oak, hickory	Present Crude, 1950 Crude, ultimately Intensive	53. 9 41. 3 58. 5 61. 2 61. 2	1, 693 842 1, 170 1, 224 3, 366	1,329 1,200 1,800 5,000
Totals	Present. Crude, 1950. Crude, ultimately. Intensive.	219. 7 300. 9 349. 6 349. 6	5, 049 8, 368 9, 991 21, 161	8,076 9,250 14,960 45,500

¹ The estimates of growth and growing area are based on the best available information, which is admittedly limited and fragmentary. The figures are therefore the best approximation now possible. They are given simply to indicate the present timber growth and its possible future improvement. A discussion of growth will be found in Yearbook article "Timber: Mine or Crop?" In estimating the proportion of the growth in each region which would make saw timber, the part of the total volume of the trees which may be converted into saw timber has been considered, and the result expressed in board feet lumber tally.

2 For timber regions used in this table see map, p. 85, in Yearbook article "Timber: Mine or Crop?"

3 Under present forest management, new tree growth is largely volunteer. By "crude forestry, 1950," is meant the annual growth that may be expected by 1950 if such crude measures as fire protection and seed trees where needed are adopted in the near future. By "crude forestry, ultimately" is meant the utmost growth that can finally be secured by these crude measures. By "intensifier forestry" is meant annitensive management of forests as crops, comparable to forestry as practiced in some of the European countries.

4 At present neally half our forest area is not producing any net growth, either because it is virgin forest, where growth is offset by decay, or because it is so denuded by overcutting and fire as to be unproductive. With the removal of the virgin forest and with adequate fire protection and planting, most of our forest land with adequate fire protection and planting, most of our forest land with adequate fire protection and planting, most of our forest land with adequate fire protection and planting, most of our forest land with adequate fire protection and planting, most of our forest land with adequate fire protection and planting, most of our forest

Table 507.—Forests: Present and possible annual growth by timber regions—('on. WESTERN UNITED STATES.

Timber region	Character of forest man-	Growing	Annual growth.		
	agement.	area.	Total	Saw timber.	
Western white pine	Crude, 1950	A cres. 1.7 2.5 2.5	Cubic feet. 51 65 75	Board feet 136 100 200	
Lodgepole pine	Present. Crude, 1950. Crude, ultimately	2 5 9. 9	150 149 282 404	400	
Douglas fir, Engelmann spruce	Present Crude, 1950 Crude, ultimately	20 2 2.1 4 2 10 5	505 32 71 179	600 53 100 260	
Western yellow pine (Oregon, Washington, Idaho).	Intensive Present Crude, 1950 Crude, ultumately Intensive	10 5 3 9	368 66 135 550	700	
Rocky Mountains	Present Crude, 1950 Crude, ultimately	$\begin{array}{c} 2 \ 6 \\ 4.4 \\ 14.2 \end{array}$	870 13 31 142	3,500 26 65 280	
Douglas fir (Pacific coast)	Present	14 2 8 0 12.9 25 2	284 632 1,058 2,066	1, 136 1, 200 1, 200 7, 500	
Sugar pine and western yellow pine (California).	Intensive. Present. Crude, 1950. Crude, ultimately. Intensive.	25. 2 1 9 4 0 16. 8	2,822 29 80 336		
Redwood	Present Crude, 1950 Crude, ultimately Intensive	.4 .8 1.5	1,008 18 56 105 240	2,700 80 210 450 900	
Totals	Present	30 5 51. 9 119 9 119 9	990 1,778 3,887 6,247	1,798 2,120 11,210 21,300	

Table 508.—Forests: Present and possible rates of growth by regions

		Average:	annual rat	e of growtl	per acre.			
Region.	Under present		r ciude stry.	Under	intensive f	tensive forestry.		
	condi- tions.	1950	Ultı- mately.	Re- gional.1		on small		
Spruce, fir:	Cubic feet.	Cubic feet.	Cubic feet.		Cubic feet.	Board ft.		
Northeast. Lake States Beech birch monle:	20	25	25	45	40- 80	160- 400		
	15	20	20	35	30- 70	90- 350		
Beech, birch, maple: Northeast Lake States	25	30	30	60	40-120	120- 480		
	20	30	30	60	40-100	120- 450		
Pine: Northeast Lake States	40	45	45	100	100-170	500- 950		
	23	40	40	80	80-120	320- 720		
Oak, chestnut, yellow poplar	25	30 27	30 27	60 65	40-120 55-105	120- 600 200- 480		
Oak, pine	30	40	40	65	60-140	270- 700		
	17	17	17	50	50-100	200- 460		
Oak, hickory. Western white pine.	19	20	20	55	40-120	200- 550		
	30	26	30	60	50- 90	200- 470		
	15	20	20	25	10- 50	30- 150		
Lodgepole pine. Western yellow pine: Oregon, Washington, Idaho	17	15	20	30	15- 45	75- 250		
Southern Rockies	5	7	10	20	10- 40	40- 180		
Mountains. Douglas fir (Pacific coast)	15	17	17	35	20- 65	30- 180		
	79	82	82	112	95-170	500-1,000		
Sugar and western yellow pine, California	15	20	20	60	65–180	320- 900		
Redwood	44	70	70	160	100–240	500-1,400		

¹ The growth on small tracts is often much greater per acre than it is for whole regions, because in the latter case allowance must be made for areas of adverse soil and topography, or of poor stocking, exceptional damage, etc.

Table 509.—National forest timber sales and amount and value of timber cut thereunder from July 1, 1904, to December 31, 1921.

	Nur	nber of	sales.		cut in b 00 omitte	oard feet d)	Valu	er cut.	
Fiscal year.	Com- mer- cial.	Cost.1	Total.	Com- mercial sales.	Cost 1 sales.	Total.	Commer- cial sales.	Cost 1 sales.	Total.
1905 1906 1907 1908 1909 1909 1910 1911 1912 1913 1914 1915 1916 1917 1916 1917 1918 1919 1919 1920 (last 6 months) 1921 (calendar year)	1,023 1,508 5,065 4,980 5,398 5,653 5,772 6,091 6,343 6,407 6,921 7,130 6,570 7,069	91 2, 341 4, 462 4, 433 4, 686 5, 907 6, 022 5, 582 3, 045 6, 621	1,508 5,062 4,980 5,398 5,653 5,772 6,182 8,298 10,905 10,840 11,607 12,592 13,272 6,653 13,690	188, 665 194, 872 392, 792 352, 434 379, 616 374, 678 481, 492 494, 950 616, 661 546, 508 575, 552 706, 558 706, 342 685, 172 489, 841 666, 191	718 9,645 19,246 19,470 20,858 21,641 19,597 22,184 14,272 21,731	138, 665 194, 872 392, 792 352, 434 379, 616 374, 678 431, 492 495, 668 626, 306 565, 754 505, 022 727, 416 727, 983 704, 769 806, 131 504, 113 687, 922	2 \$85,597 2 203,333 337,952 677,784 906,309 842,993 942,819 1,074,682 1,264,490 1,165,268 1,241,105 1,490,814 1,507,121 1,497,702 1,754,682 1,165,268 1,241,105 1,497,702 1,168,885 1,646,818	\$503 6,570 14,180 14,593 16,095 16,300 14,671 15,801 9,874 16,361	2 203,333 337,952 794,252 677,784
Total	93,593	43,290	136, 883	8,604,746	169,362	8,774,108	18,602,524	124,951	3 18, 727, 475

 $^{^1\,^{\}prime\prime}$ Cost sales" are special sales made to farmers and settlers who are entitled by law to purchase for domestic use mature or dead national forest timber at the cost of making and administering the sale 2 Estimated.

Table 510.—National forests. Estimate of standing timber June 30, 1922.

			Saw timber.	Cordwood.
Beaverhead 4, 183, 00 Bitterroot 4, 887, 00 Blackfeet 2, 797, 22 Cabinet 960, 00 Clearwater 6, 558, 68 Coeur d'Alene 4, 131, 58 Custer 458, 13 Deerlodge 1, 119, 56 Flathead 4, 777, 68 Gallatin 1, 272, 47 Helena 613, 06 Jefferson 1, 711, 68 Kaniksu 1, 667, 28 Kootenai 35,55, 00 Lewis & Clark 304, 66 Lolo 1, 810, 00 Madison 873, 00 Missoula 3, 550, 00 Nexperce 6, 258, 91 Pend Oreille 1, 221, 20 St. Joe 4, 184, 90 Selway 4, 514, 80	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Arapaho. Battlement Bighoin. Battlement Bighoin. Black Hills Cochetopa. Colorado. Gunnison. Harney. Hayden Holy Cross Leadville Medicine Bow Michigan Minnesota Montezuma Pike. Rio Giande Routt San Isabel. San Juan Shoshone Superior Uncompahgre Washakie. White River Total, district 2	750, 000 1, 500, 569 1, 510, 000 1, 632, 346 1, 196, 300 1, 729, 700 1, 374, 429 759, 275 1, 533, 030 326, 077 3, 132, 896 4, 295 25, 000 1, 755, 250 1, 100, 000 1, 551, 905 1, 602, 600 1, 751, 229, 500 594, 700 1, 455, 600 1, 797, 595	Cords. 52, 510 100, 000 2, 461, 000 60, 000 397, 800 455, 000 455, 000 131, 710 1, 855, 000 1, 285, 500 1, 285, 500 1, 285, 500 1, 288, 802 882, 000 81, 125 1, 447, 000 1, 283, 000 675, 000 1, 797, 595 18, 936, 902

¹ Montana, northeastern Washington, northern Idaho, and northwestern South Dakota.

² Colorado, Wyoming (except western Wyoming), South Dakota, Nebraska, northern Michigan, and northern Minnesota.

Estimated. 3 Value of other timber products, not convertible into board feet, taken from the national forests. Fiscal years 1917, \$394; 1918, \$4,837, 1919, \$7,779; 1920, \$10,381; last 6 months 1920, \$7,563, calendar year 1921, \$4,511; total, \$35,465.

Table 510.—National forests: Estimate of standing timber June 30, 1923—Continued.

District and forest	Saw timber.	Cordwood.	District and forest	Saw timber.	Cordwood.
DISTRICT 3.1			DISTRICT 5—continued.		
	M fect b. m.	Cords.		M feet b. m.	Cords.
A pache Carson	2, 419, 269	327, 569	Shasta	1.000.000	250,00
Carson	1, 152, 125	984, 782	Sieria	1,000,000 13,166,000 9,219,798	2,375,00
Coconino	3, 983, 231	1,400,000	Stanislaus	9, 219, 798	2,375,00 4,204,00
Coronado	290,000	3,748,000	Tahoe	0, 109,000	187,00 5,863,12
Prook	376,000	449,000	Trinity	10,980,000	5,863,12
Datıl	3, 330, 000	4,850,000			
lla	2, 150, 000	875,000	Total, district 5	96, 515, 813	26, 414, 73
incoln	598, 702 346, 000	1, 898, 000 1, 200, 000 2, 105, 000 1, 486, 638 922, 000 1, 086, 608 1, 045, 556			
Prescott	180,000	9 105 000	DISTRICT 6.4		
Santa Fe	2 672 037	1 486 638	Consedo	03 700 010	
Sitgreaves	2, 672, 037 4, 257, 775 593, 368 770, 795	922, 000	Cascade	23, 589, 613	
Ponto	593, 368	1 086 608	Columbia	4, 548, 126	
Pusayan	770, 795	1, 045, 556	Colville	11,011,571 2,681,508	
z dadaj waz i i i i i i i i i i i i i i i i i i i		-, 025, 050	Ciater	8 260 125	
Total, district 3	23, 119, 302	22, 378, 153	Deschutes	8,760,125 7,317,000	
·			Fiemont	6, 597, 280	
DISTRICT 4.2			Malheur	6, 597, 280 6, 560, 000	
			Ochoco	7,675,000	
Ashley	1, 194, 130 3, 396, 980	396, 300	Olympic	00'000' CNO	
Boise	3, 396, 980		Oregon	14, 105, 653	
Bridger	585,791	428, 183	Rainier	30,000,000 14,105,653 7,232,290 12,023,499 11,980,343 5,913,080 8,936,786 4,528,795 23,591,201	
Cache	156, 495	574, 758	Santiam	12,023,499	
Caribou	169, 800	560, 000	Siskiyou	11,980,343	
hallıs Dixie-Sevier	1,690,731 425,649	1,730,764	Siuslaw	5,913,080	
Fillmore	240, 428	986, 362	Snoqualmie	8, 900, 786	
Fishlake		925, 420	Umatılla	4, 048, (90	
Humboldt	12 131	341 451	Umpqua	23, 391, 201	
daho	8, 379, 781	341, 451 3, 916, 748 532, 800 804, 998	Wallowa	1,000,100	
Kaibab	1, 718, 919	532, 800	Washington	10, 437, 209 3, 605, 500	
a Sal	104, 555	804, 998	Wenatchee Whitman	5, 801, 758	
emhi	102, 115 12, 131 8, 379, 781 1, 718, 919 104, 555 598, 875 279, 518 50, 753 22, 250 5, 304, 748	315, 085 1, 276, 102 545, 000	TV III DINGH	0,001,100	
Mantı	279, 518	1, 276, 102	Total, district 6	218, 865, 530	
Minidoka	50, 753	545,000	1 20000)		
Nevada	22,250	1,010,000	DISTRICT 7 5	1	
Payette	5,304,748	56, 500			
Powell	1,559,600 3,363,009	985, 680	Alabama	94,489	30,00
Salmon Sawtooth	696, 000	61 500	Aikansas	1,251,380	
Torchoo	1 726 523	61, 500 256, 320	Cherokee	94,489 1,251,380 340,709 182,250	407,42 1,287,78
Patan	1, 726, 523 2, 699, 500	400,000	Florida	182,250	1,287,78
Poivaba		2, 811, 000	Luquille		
Targnet Peton Poiyabe Uinta Wasatch	1,048,210 474,792		Monongahela	22,015	10,70
Wasatch	474, 792	259,670	Nantahala. Natural Bridge	282, 381	617,60
Weiser	1, 525, 910		Ozark	152,314	251, 76
Wyoming	690, 863	589, 728		416,750 289,030	0000
-			PisgahShenandoah	140,172	2,280,00 226,6
Total, district 4	38, 218, 056	20, 364, 369	Unaka	152 732	515, 02
_			White Mountain	152, 732 923, 764	010,02
DISTRICT 5.3			Wichita	020,101	
	1 004 000	7 497 740			
Angeles	1, 204, 238 4, 040, 600	1,437,749 200,000	Total, district 7	4,283,986	5, 626, 97
California	4,040,000	200,000	,		
Eldorado	227, 300 4, 841, 862	210, 250 668, 250	DISTRICT 8.6		
nvo	681, 000	3, 166, 000			
nyo. Klamath	12, 485, 162	3, 166, 000 3, 280, 000	Chugach	6, 589, 950	
Lassen	6, 884, 350	84, 640	Tongass	73, 538, 000	
Modoc	2, 799, 256	747, 000			
Mono.	1,080,834	1, 209, 205	Total, district 8	80, 127, 950	
Plumas	4, 541, 802 681, 000 12, 485, 162 6, 884, 350 2, 799, 256 1, 080, 834 10, 145, 689 596, 000 7, 454, 724	84,640 747,000 1,209,205 200,000 1,785,000	motal all digital-i-		
Santa Barbara	596,000	1,785,000	Total, all districts.	557, 571, 143	93,721,13
Sequoia	7, 454, 724	547, 525			

Alizona (except north of Grand Canyon) and New Mexico.
 Utah, southern Idaho, western Wyoming, eastern and central Nevada, and northwestern Arizona.
 California and southwestern Nevada.
 Washington (except northeastern Washington) and Oregon.
 Arkansas, Alabama, Florida, Oklahoma, South Carolina, Georgia, North Carolina, Tennessee, Virginia, West Virginia, New Hampshire, Maine, Porto Rico.
 Alaska.

Note —In round numbers the total estimated stand, including cordwood converted to board feet, is $590,000,000~\mathrm{M}$ feet b. m.

Table 510.—National forests: Estimate of standing timber June 30, 1922—Continued. SUMMARY BY STATES.

Stare.	Saw timber.	Cordwood.	State	Saw tımber.	Cordwood
Alabama Alaska Arizona Arkansas Cahfornia Colonado Florida Georgia Idaho Maine Minnesota Montana Nebraska Novada New Hampshire	80, 127, 950 14, 573, 357 1, 698, 130 99, 591, 705 21, 177, 413 182, 250 259, 693 54, 223, 550 67, 725 4, 295 524, 500 35, 189, 369	Cords. 30,000 11,426,533 25,430,728 10,659,397 1,287,785 3,90,730 6,017,207 18,380 1,952,000	New Mexico. North Carolina Oklahoma Oregon. Porto Rico. South Carolina South Dakota. Tennessee Utah Virginia Washington West Virginia Wyoming Total for all States.	454, 917 136, 096, 751 24, 064 2, 641, 931 295, 008 5, 364, 881 309, 746 80, 461, 018 41, 923 12, 876, 222	Cords, 11, 484, 420 2, 662, 531 52, 636 896, 000 588, 816 6, 669, 716 570, 004 44, 469 6, 971, 836

Table 511.—National forests Estimate of saw timber, by species.

~ .			T	iousands o	of board fee	et.		
Species.	District 1	District 2.	District 3.	District 4	District 5.	District 6.	District 8	Total.
Western yellow pine Western hemlock. Lodgepole pine Alpine species. Cedar. Engelmann spruce. White fir. Silka spruce. Sugar pine. Red fir. Larch. White pine. Hardwoods. Black and white spruce. Redwood. Blue spruce. Redwood. Blue spruce. Jack pine. Jack pine. Jornay pine. Juniper. Miscellaneous. Total, all species, district 7.	5, 450, 232 51, 661 17, 604, 352 1, 808, 340 2, 738, 161 5, 448, 782 13, 246, 189 6, 852, 121 6, 045, 523 2, 600 21, 924, 783	5, 081, 374 10, 109, 010 1, 789, 130 1, 789, 130 12, 203, 529 48, 064 40, 200 1, 225, 305 117, 020 96, 000 182, 300 76, 000 87, 000 3 19, 595	19,058,288 129,301 754,297 739,027 4 243,277	11, 286, 392 8, 507, 930 2, 320, 992 3, 796, 926 132, 622 499, 639 505, 949 101, 400 43, 330 2, 189, 351	31, 192, 012 2, 634, 906 75, 211 4, 404, 971 14, 461, 403 11, 655, 889 12, 934, 782 151, 681 1, 925, 605 258, 147	29, 693, 309 4, 737, 354 25, 345, 312, 8, 573, 908 1, 396, 774 5, 129, 352 1, 729, 437 4, 312, 438 1, 247, 365 78, 150 950, 509	52, 633, 428 8, 104, 406 18, 510, 753 122, 703 756, 660	20, 065, 758 13, 381, 526 12, 931, 782 11, 661, 198 7, 481, 769 1, 925, 605 1, 880, 933 873, 680 336, 297 200, 400 182, 300 76, 000 51, 830 5, 673, 173 1, 283, 986
Total	63, 730, 397	32, 710, 109	23,119,302	38, 218, 056	96, 515, 813	218,865,530	80, 127, 950	557, 571, 143

¹ Includes some hemlock.
2 Includes balsam, white fir, hemlock, and others
3 Includes painon pine, tamarack, hemlock.
4 Includes painon pine, tamarack, hemlock.
4 Includes Mexican white pine, colk bark fir, foxtail pine, Chihuahua pine, cypress, etc.
5 Includes balsam, dead, and other species not specified.
6 Includes Coulter pine, big cone spruce, and miscellaneous.

Table 511 .- National forests: Estimate of saw timber, by species-Continued.

DISTRICT 7.1

Species Yellow pine ²	M feet b m.	Species Gum.	M feet b m.	Species.	M feet b.m.
Spuce and fit. White oak. Chestnut. Longleaf pine. Red oak. Hemlock Chestnut oak. Maple. Yellow birch. Black oak. Yellow poplar. Paper birch.	482, 336 317, 146 179, 456 168, 035 142, 927 137, 489 127, 822 110, 819 108, 351 105, 234	White pine Beech Hickory Mixed oak Basswood Aspen Ash Scarlet oak Buckeye Birch Cucumber Slash pine	67, 901 62, 929 51, 911 33, 446 17, 934 14, 340 10, 405 8, 882 6, 017 4, 742 2, 958	Walnut Locust Cherry Cypress Pond pine Jumper Miscellaneous Tie timber Total	976 909 875 80 75 10 76,096 123,569

Table 512.—National forests: Timber granted without charge to local residents, under "free use" regulations, July 1, 1906, to December 31, 1921.

Fiscal year.	Number of permittees.	Amount cut, M board feet	Estimated value.
1907. 1908. 1909. 1910. 1911. 1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920 (last six months). 1921 (calendar year).	40, 660 38, 749 38, 264 39, 466 40, 040 42, 070 41, 427 38, 073 34, 617 37, 336	86, 818 131, 977 105, 205 104, 796 123, 488 123, 233 121, 750 120, 575 123, 259 119, 488 113, 073 96, 616 90, 798 88, 060 56, 813 123, 245	\$100, 362 169, 320 169, 081 176, 167 196, 390 196, 393 191, 825 183, 223 206, 597 184, 720 127, 688 113, 117 113, 000 60, 391 117, 055
Total.	568, 976	1,729,194	2, 455, 613

¹ Presented separately due to difference in species ² Includes shortleaf, Virginia scrub, table-mountain, and pitch pine.

Table 513.—Expenditures for forestry in the United States for fiscal year ending June 30, 1922.

	1000:		
I.	Total expenditures by all agencies.		1 \$17, 013, 48
11.	Federal Government 1. Forest Service. (a) National forest administration. 2 \$6, 922, 256 (b) Research 695, 000 (c) Acquisition of lands 999, 880	\$9,015,904	9, 785, 904
***	(d) State cooperation. 398, 768 2 Bureau of Plant Industry. 3. Bureau of Entomology. 4 Indian Service. State governments.	195, 057 3 488, 124 86, 621	° 000 004
	Administration, research, and acquisition (calendar year 1921) White-pine blister rust control. Gpsy-moth control.	4, 065, 434 105, 500 850, 000	5, 020, 934
	Municipalities Blister rust control Other Private owners.	18,000 282,000	300,000 2 1,281,648
٧.	1. Planting. 2. Protection and brush disposal (calendar year). 3. Methods of cutting (estimated). 4. Insect control (Oregon and California). 5. Bluster rust control.	225, 000 1, 000, 000 25, 000 16, 416 15, 232	1,231,048
VI	Forest schools.		625, 000

Not including special forest road and trail appropriations or cooperative contributions to Forest Service.
 Not including private industrial research in pulp and paper, wood preservation, etc.
 Chiefly for control of gipsy moth.

IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCTS.1

[Compiled in the Bureau of Markets and Crop Estimates from reports of the Foreign Commerce and Navigation of the United States, United States Department of Commerce |

Table 514.—Agricultural imports of the United States during the 3 years ending Dec. 31, 1921.

[The figures are in round thousands, 1 e, 000 omitted.]

19		[21
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Thou-	Thou-	Thou-	Thou	Thou-	Thou-
sands. 612 5 225 21	sands \$53, 296 803 2, 473 758 707	sands. 379 4 173 1	sands. \$27,419 1,089 1,730 25 1,291	sands. 195 4 85 3	sands. \$6,133 827 472 65 1,584
	58,037		31, 552		9,081
2,384	896	4,143	1, 418	2, 493	181
9,519 11,332	4, 860 4, 073	37, 454 15, 991	18, 646 5, 657	18, 558 26, 866	7,392 8,677
3,685 16,509	1,850 2,080	4,118 23,756	2,702 3,332	4, 613 8, 668	2,991 1,420
	12, 863		30, 337		20, 480
1, 247 7, 978 24, 891	395 6, 061 8, 470	1,709 9,111 29,023	618 4,593 7,234	3,063 4,639 17,898	923 1,160 3,167
309 1,600	2,698 853	143 3,720	1,088 1,509	150 2,129	1,338 751
852	487	201	315	128	99
44, 817 9, 853	329, 339 12, 061	30, 058 9, 401	284,891 15,832	45,355 6,849	259, 054 5, 570
55, 522	341,887	39,660	301,038	52, 332	264, 723
334,100	171, 289	212, 392	109,001	207, 867	45, 772 2, 202
96, 948	36, 898	35,870	11,564	97,900	11, 499
7,111	3,994	4,712	2,572	4,061	1,008
445, 893	216, 765	259, 617	126, 971	320,666	60, 481
449 866 454	242 209 565	2,313 2,777 990	1,225 662 1,335	1,844 3,489 163	847 590 96
	Quantity. Thou-sands. 612 5 225 21 21 2, 384 9, 519 11, 332 3, 685 16, 509 1, 247 7, 978 24, 891 309 1, 600 852 44, 817 9, 853 55, 522 334, 100 7, 734 96, 948 7, 111 445, 893	1919 Quantity. Value. Thou-sands. 612 \$33, 296 225 2, 473 21 758	Year endin 1919 19 Quantity. Value. Quantity. Thou-sands. \$33, 296 \$379 \$803 \$4 \$25 \$2,473 \$173 \$21 \$758 \$1 \$1 \$707 \$11,332 \$4,073 \$15,991 \$3,685 \$1,850 \$4,118 \$24,891 \$8,470 \$29,023 \$309 \$2,698 \$143 \$1,600 \$853 \$12,061 \$9,401 \$55,522 \$341,887 \$39,660 \$34,100 \$171,289 \$212,392 \$7,734 \$4,584 \$6,643 \$96,948 \$36,898 \$35,870 \$7,111 \$3,994 \$4,712 \$445,893 \$216,765 \$259,617 \$449 \$242 \$2,313 \$666 \$209 \$2,777	1919 1920 Quantity. Value. Quantity. Value. Thou-sands. \$33,296 379 \$27,419 5 \$33,296 379 \$27,419 5 \$803 173 1,730 21 707 1,291 58,037 31,552 2,384 896 4,113 1,418 9,519 4,860 37,454 18,646 11,332 4,073 15,991 5,657 3,685 1,850 4,118 2,702 16,509 2,080 23,756 3,332 12,863 30,337 1,247 3,978 6,061 9,111 4,593 24,891 8,470 29,023 7,234 309 2,698 143 1,083 1,509 4,560 9,411 4,593 9,853 12,061 9,401 15,832 55,522 341,887 39,660	Year ending Dec. 31— 1919 1920 19

¹ Forest products come within the scope of the Department of Agriculture and are therefore included in alphabetical order in these tables

Table 514.—Agricultural imports of the United States during the 3 years ending Dec. 31, 1921—Continued.

Har Har Horse Ac				Year endin	g Dec. 31–	_	
ANIMAL MATTER—continued. Packing-house products: Blood, dried	Article imported.	19	1919		20	1921	
Packing-house products		Quantity	Value.	Quantity.	Value.	Quantity.	Value.
Packing-house products Sunds. Sun	ANIMAL MATTER—continued.		m'r	m	<i>m</i> 7		
Grease	Packing-house products	sands.	sands.	sands	sands.	sands	sands
Grease	Blood, dried pounds	11,004 50,388		178,067	\$575 3,338	9,983 53,715	\$254 883
Horse	Bristles do	3, 159	6,035	4,945	10, 388	3,430	5, 401
Other animal	Hair—	1				1	
Hide cuttings and other gine stock pounds. 19,781 979 36,856 2,239 28,743 1,592	Horsedo	4,015 4,545	$1,644 \\ 542$	4,896 6,770	$\frac{2,202}{1,218}$	3,190	1,324
Hides and skuns, other than furs—Buffalo indes, dry pounds. 15,620 3,463 9,484 2,721 1,918 335 Cabrieta 20 40 86 12 14 23 315 Cabrieta 20 Calfskuns—Dry do. 42,325 20,914 16,903 9,989 14,261 3,277 Green or pickled. do. 22,230 12,739 18,230 9,271 33,677 7,092 Cattle hides—Dry do. 96,190 34,367 59,150 21,092 13,257 2,348 Gieen or pickled. do. 311,092 91,224 216,174 64,383 106,929 20,910 Goat skins—Dry do. 111,134 85,528 69,877 52,415 54,925 22,377 Green or pickled. do. 22,523 9,729 10,327 6,225 8,202 1,497 Horse and ass skins—Dry do. 12,077 3,612 5,043 1,620 812 97 Green or pickled. do. 15,976 3,633 11,803 2,636 3,248 277 Kangaroo do. 1,384 1,363 1,389 1,421 455 285 Sheepskins—Dry do. 43,560 21,288 29,833 17,395 1,421 455 285 Green or pickled. do. 43,560 21,288 29,833 17,395 1,421 455 285 Green or pickled. do. 41,471 15,232 52,916 20,830 32,388 4,686 0ther do. 9,159 3,031 9,098 3,815 4,487 1,033 4,687 4,487 1,033 4,687 4,487 1,033 4,687 4,487 1,033 4,687 4,487 1,033 4,687 4,487 1,033 4,687 4,487 1,033 4,687 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487 4,487	Hide cuttings and other glue stock					'	
Buffalo hides, drypounds.		10, 101	710	00,000	2, 200	20, 140	1, 595
Dry	Buffalo hides, drypounds Cabrettado	15,620 94	3,463 86	9,484 12	2,721 14	1,918 23	358 11
Dry	Drydo Green or pickleddo	42, 325 22, 230	20, 914 12, 739	16,903 18,230		14,261 33,677	$\frac{3,271}{7,092}$
Dry do	Drydo Green or pickleddo	96, 190 311, 092	34, 367 91, 224	59, 150 216, 174	21,092 64,383	13, 257 166, 929	2,349 20,910
Dry Green or pickled do 15,976 3,612 5,043 1,620 812 97 626 633 11,803 2,636 3,248 277 826 1,884 1,363 1,389 1,421 455 285 166 1,384 1,363 1,389 1,421 455 285 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,421 1,4	Drydo Green or pickleddo	111, 134 22, 523	85, 828 9, 729	69,877 10,327	$82,415 \\ 6,225$	54, 925 8, 202	$22,374 \\ 1,497$
Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care Care	Drydo	12,077	3,612	5,043	1,620		97
Sheepskins	Green or pickleddo	15,976 1,384	3,633 1,363	11,803	2,636 $1,481$	3,248 455	270 283
Meat	Sheepskins —	1		1			
Meat	Green or pickled do Other do	41,471	15, 232 3, 031	52, 916 9, 098	20, 830 3, 815	32, 398 4, 487	4,686 1,035
Cured—Bacon and hams. do. 2,646 788 755 235 166 551 Bacon and hams. do. 2,646 788 755 235 166 551 Meat prepared or preserved 21,190 5,838 7,199 1,610 3,171 559 Sausage, bologna do. 72 43 157 74 57 22 Fresh—Beef and veal do. 38,462 6,408 50,182 8,057 32,378 3,944 Mutton and lamb. do. 8,209 1,547 101,168 12,645 25,395 2,991 Pork. do. 2,779 601 1,541 415 816 178 Other, including meat extracts pounds 8,596 1,838 7,448 2,009 5,643 1,984 Total meat. 17,063 25,045 67,626 9,775 Olco stearin pounds 2,358 475 963 181 419 33 Rennets do. 103 147 250 141 55 23 Sausage casings do. 11,234 5,629 12,138 7,049 9,390 5,365 Total packing-house products 345,361 300,939 930 53,905 Total animal matter 995,303 810,521 458,022 VEGETABLE MATTER. Argols or wine lees. pounds 12,704 4,287 35,577 4,465 16,088 1,175	Total hides and skinsdo	744, 835	306, 509	510, 239	243, 878	348, 049	67, 561
Bacon and hams do. 2,646 788 755 235 166 53 Meat prepaided or preserved 21,190 5,838 7,199 1,610 3,171 596 Sausage, bologna do. 72 43 157 74 57 22 Fresh— Beef and veal do. 38,462 6,408 50,182 8,057 32,378 3,944 Mutton and lamb do. 2,779 601 1,541 415 816 178 Other, including meat extracts pounds 8,596 1,838 7,448 2,009 5,643 1,984 Total meat 17,063 25,045 67,626 9,775 Olco stearin pounds 2,358 475 963 181 419 33 Rennets do 11,234 5,629 12,138 7,049 9,930 5,355 Sausage casings do 11,234 5,629 12,138 7,049 9,930 5,355 Ta	Meat—						
Sausage, bologna do. 72 43 157 74 57 22 Fresh— Beef and veal do. 8, 209 1, 547 101, 168 12, 645 25, 395 2, 991 Pork do. 2, 779 001 1, 541 415 816 178 Other, including meat extracts pounds 8, 596 1, 838 7, 448 2, 009 5, 643 1, 984 Total meat. 17, 063 25, 045 67, 626 9, 775 Olco stearin pounds 2, 358 475 963 181 419 33 Rennets do. 103 147 250 141 55 22 Sausage casings do. 11, 234 5, 629 12, 138 7, 049 9, 930 5, 358 Tallow do. 12, 096 1, 813 14, 875 1, 842 1, 870 106 Total packing-house products 345, 361 300, 939 93, 905 Total animal matter 995, 303 810, 521 458, 022 VEGETABLE MATTER. Argols or wine lees. pounds 25, 736 4, 287 35, 577 4, 465 16, 088 1, 176 Breadstuffs. (See Grain and grain prod-	Bacon and hamsdo	2,646		755	235	166	51
Beef and veal do. 82, 462 6, 408 50, 182 8, 057 32, 378 3, 944 Mutton and lamb do. 8, 209 1, 547 101, 168 12, 645 25, 395 2, 995 Pork do. 2, 779 601 1, 541 415 816 178 Other, including meat extracts pounds 8, 596 1, 838 7, 448 2, 009 5, 643 1, 984 Total meat 17, 063 25, 045 67, 626 9, 773 Olco stearin pounds 2, 358 475 963 181 419 33 Rennets do 103 147 250 141 55 22 Sausage casings do 11, 234 5, 629 12, 138 7, 049 9, 930 5, 35 Tallow do 12, 096 1, 813 14, 875 1, 842 1, 870 106 Total packing-house products 345, 361 300, 939 93, 90 Total animal matter 995, 303 810, 521 458, 02 VEGETABLE MATTER. Argols or wine le	Sausage, bolognado	21, 190 72	5, 838 43	7,199 157		3,171 57	599 25
Multon and tamb do	Beef and vealdo	38, 462	6,408	50,182	8,057	32,378	3,945
Other, including meat extracts 8,596 1,838 7,448 2,009 5,643 1,984 Total meat 17,063 25,045 67,626 9,773 Olco stearin pounds 2,358 475 963 181 419 33 Rennets do 103 147 250 141 55 22 Sausage casings do 11,234 5,629 12,138 7,049 9,930 5,35 Tallow do 12,096 1,813 14,875 1,842 1,870 106 Total packing-house products 345,361 300,939 93,90 93,90 Total animal matter 995,303 810,521 458,02 VEGETABLE MATTER 25,736 4,287 35,577 4,465 16,088 1,176 Breadstuffs (See Grain and grain prod- 25,736 4,287 35,577 4,465 16,088 1,176	Mutton and lambdo Porkdo	8, 209 2, 779	1,547 601	101,168	12,645 415	25, 595	2,991 178
Total meat.	Other, including meat extracts	1		1	2 009		1 984
Olco stearin pounds 2,358 475 963 181 419 33 Rennets do 103 147 250 141 55 20 Sausage casings do 11,234 5,629 12,138 7,049 9,930 5,358 Tallow do 12,096 1,813 14,875 1,842 1,870 100 Total packing-house products 345,361 300,939 93,905 Total animal matter 995,303 810,521 458,022 VEGETABLE MATTER. Argols or wine lees pounds 25,736 4,287 35,577 4,465 16,088 1,173 Breadstuffs (See Grain and grain prod- 25,736 4,287 35,577 4,465 16,088 1,173							
Rennets do 103 147 250 141 55 20 20 20 20 20 20 20 20 20 20 20 20 20							
Total packing-house products	Oleo stearinpounds Rennetsdo	2,358	147	250	141	55	20
Total packing-house products	Sausage casingsdo	11,234	5,629 1,813	12,138 14,875	7,049	9,930	5,358 106
Total animal matter				22,010		1,010	
VEGETABLE MATTER. Argols or wine leespounds 25,736 4,287 35,577 4,465 16,088 1,177 Breadstuffs. (See Grain and grain prod-							
Argols or wine leespounds. 25,736 4,287 35,577 4,465 16,088 1,177 Breadstuffs. (See Grain and grain prod-			995, 303		810, 521		458,023
Breadstuffs. (See Grain and grain prod-	VEGETABLE MATTER.						
40000)	Breadstuffs. (See Grain and grain products.)		4,287	35, 577	4, 465		1,177
Broom corn long tons (2) 2 1 77 (2)	Broom cornlong tons	(2)	(2) 2	9		(2) 924	4 34
Cocoa and chocolate: Cocoa, crude, leaves and shells of.do 391, 397 57, 999 343, 667 54, 308 304, 817 23, 128	Cocoa, crude, leaves and shells of.do	391,397 967	57,999 342	343,667 1,319	54, 308 503	304, 817	23, 125 441
	Total cocon and chocolate_do	392.364	58. 341		54. 811	306.568	23,566

Table 514.—Agricultural imports of the United States during the 3 years ending Dec. 31, 1921—Continued.

	Year ending Dec 31—							
Article imported.	19	19	19	20	199	21		
	Quantity.	Value.	Quantity	Value.	Quantity.	Value.		
VEGETABLE MATTER—continued.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.		
Coffeepounds	1, 337, 564	\$261, 270	1, 297, 439	\$252,451	1, 340, 980	\$142, 809		
Fibers, vegetable:		71, 886 3, 997 954 2, 523 8, 384 3, 673 19, 255 1, 641 39, 554 1, 797	299, 994 7 8 24 96 10 67 6 181 7	138, 744 3, 849 3, 226 3, 335 9, 693 3 848 20, 515 1, 034 33, 535 1, 342	138,949 4 7 10 62 8 32 1 116 6	32, 902 2, 229 1, 684 825 5, 810 2, 557 5, 819 131 13, 656 876		
Total vegetable fibers		153,664		219, 121		66, 509		
Forest products: Cinchona barkpounds. Cork, wood, and barkdo. Dyewood extractsdo	5, 981 28, 287 1, 157	1,076 1,803 210	4,068 63,972 1,156	1, 526 2, 725 170	1, 033 22, 148 1, 043	333 960 85		
Dyewoods— Logwoodlong tons. Otherdo	29 2	550 38	73 4	2,187 70	27 5	637 98		
Total dyewoodsdo	31	588	77	2, 257	32	735		
Gums— Arabic or Senegalpounds Camphor—	5, 943	819	6,498	764	7,556	625		
Crude	2, 694 2, 125 9, 446 20, 326 4, 745	2, 506 3, 830 6, 217 2, 083 432	3, 833 1, 144 9, 860 69, 334 10, 095	5, 207 2, 246 6, 749 9, 596 807	1,079 480 6,964 17,628 7,023	637 373 3, 562 2, 059 270		
India rubber, gutta-percha, etc.— Balatapounds. Guayule gumdo. Gutta joolatong or East Indian	1,628 3,204	937 761	2,384 1,699	1, 260 346	1, 822 130	1,078 27		
gum pounds. Gutta-percha do India rubber do	18,663 6,496 535,940	2, 214 1, 069 215, 820	12,706 7,129 566,546	2, 069 1, 520 242, 796	3, 908 2, 206 415, 283	352 334 73,773		
Total India rubber, etc do	565, 931	220, 801	590, 464	247, 991	423, 349	75, 564		
Shellac	24, 426 11, 291	11, 869 3, 387	28, 587 12, 990	23, 089 3, 756	27, 841 12, 938	13,618 1,442		
Total gumsdo	646, 927	251, 944	732, 805	300, 205	504, 858	98, 160		
Ivory, vegetabledo	31,779	1,172	49,690	2, 551	28, 383	908		
Tanning materials— Mangrove barklong tons. Quebracho, extractpounds. Quebracho woodlong tons. Sumac, ground or ungroundpounds.	3 144, 497 4	88 6, 903 54	7 108,897 56	316 6,700 850	144, 399 7	120 6,449 108		
Other	14, 725	558 1,824	12,997	429 3, 016	9, 856	216 1,298		
Total tanning materials		9, 427		11,311		8, 191		
Wood— Brier root or brierwood and ivory or laurel root.		1, 288 236		1,006 1,286		136 459		

Table 514.—Agricultural imports of the United States during the 3 years ending Dec. 31, 1921—Continued.

			Year endın	g Dec. 31–		
Article imported.	19	19	19:	20	199	21
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued.						
Forest products—Continued. Wood—Continued. Cobinet woods, unsawed— Cedai M feet Mahogany do Other do	Thou- sands. 9 43 8	Thou- sands. \$592 3,973 706	Thou- sands. 8 53 14	Thou- sands. \$730 7,193 1,330	Thou- sands. 8 43 6	Thou- sands. \$521 4,556 636
Total cabinet woodsdo		5,271	75	9, 253	57	5,713
Logs and round timberdo	93	1,691	76	2,060	132	2,392
Lumber— Boards and other sawed lumber. M feet. Laths. M Shingles M Other		37, 261 3, 037 8, 720 1, 389	1,351 442 1,964	57, 724 4, 173 11, 260 2, 901	839 806 2,164	29, 623 5, 181 7, 402 2, 287
Total lumber		50,407		76,058		44,493
Pulp wood, peeled, rossed, and roughcords. Rattan and leeds Timber, ship and other All other wood	1,047	10,459 872 297 667	1,241	16,903 2,467 563 1,579	1,082	15,387 1,075 146 831
Total wood		71,188		111,175		70,632
Wood pulplong tons	568	37,048	809	89,418	622	39,396
Total forest products		374, 156		521,338		219,400
Fruits Fresh or dried— Bangnas bunches			39.320	19 088	43,366	19,385
Currants pounds Dates do Figs do Grappefruit	14,852 36,921 25,359	15,935 2,296 1,891 4,518 611 845 2,438 2,339	39,320 55,832 32,347 31,437 992 4,778	6,076 2,088 3,483 627 1,485 2,905 4,925	43,366 57,037 48,504 38,706 752	4,482 2,321 3,251 609 1,137 1,236 2,273
Leinons gallons Olives gallons Oranges Pineapples Raisins pounds Other	1,567	53 1,046 443 4,609	46,039	58 1,423 7,564 4,136	17,015	1,572 2,441 4,314
Total fresh or dried		37,024		53,858		43,060
Prepared or preserved		1,291		2,706		1,326
Total fruits		38,315		56,564		41,386
Grain and grain products: Grain—						
Corn. bushels. Oats. do Wheat do.	609	10,967 470 14,906	7,784 6,728 35,809	9,297 6,519 75,359	164 3,565 23,286	199 1,539 35,913
Total graindo	19,733	26,343	50,321	91,205	27,015	37,651
Grain products— Bread and biscuitpounds Macaron, vermoelli, etcdo Meal and flour, wheat flour	993	206 102	1,469 805	368 107	1,534 1,587	319 166
barrels.	. 17	171	801	8,669	966	7,725
Total grain products		479		9,114		8,210
Other		6,534		4,982		2,797
Total grain and grain products		22 2 <i>5P</i>		10F 991	1	48 BKS

Table 514.—Agricultural imports of the United States during the 3 years ending Dec. 31, 1921—Continued.

		•	Year ending	g Dec. 31-	-	
Article imported.	19	19	199	20	169	21
	Quantity.	Value.	Quantity.	Value.	Quantity	Value.
VEGETABLE MATTER—continued. Haylong tons.	Thou- ands 203	Thou- sands. \$3,082	Thou- sands. 209	Thou- sands. \$4,482	Thou- sands. 39	Thou- sands. \$788
Hops. pounds Indigo, natural and synthetic do Licorice root do Liquors, alcoholic Nursery stock, mainly flowering bulbs	1, 051 49, 892	238 692 3,865 525 4,421	5,949 919 56,226	2, 933 787 3, 455 3, 269 5, 080	1,629 461 53,550	668 287 2,516 4,714 5,221
Nuts						
Almonds— Shelled pounds Unshelled do Coconuts number Coconut meat—	1 1	10, 582 1, 305 4, 053	18, 151 6, 703 91, 165	6, 733 1, 063 4, 230	20, 874 4, 402 79, 991	6,341 528 2,284
Not prepared pounds Prepared do Cteam and Brazil do Filberts—	258, 916 29, 638 43, 076	16, 545 4, 141 3, 136	215, 188 32, 921 13, 998	14, 187 5, 167 1, 862	189, 321 35, 392 40, 540	7,382 2,927 1,929
Shelled do Upshelled do Marrons, crude do Palm and palm-nut kernels do Peanuts—	3,779 16,747 5,012 5,610	1,194 3,396 394 289	5, 034 14, 096 29, 480 8, 329	1,326 1,863 1,716 485	3, 854 14, 729 23, 341 230	$\substack{645\\1,279\\1,106\\19}$
Shelled do Unshelled do	24, 180 5, 667	$^{1,934}_{394}$	110, 810 8, 703	10, 571 772	35,640 4,524	$\frac{1,522}{203}$
Walnuts— Shelleddo Unshelleddo. Other	10, 261 21, 235	5,317 3,985 846	15, 818 16, 073	6,032 2,466 1,186	13,331 33,414	4, 972 4, 472 892
Total nuts		57, 511		59, 659		36, 501
Oil cakepounds	112,406	2,371	228, 853	4, 415	88, 406	1,755
Oils, vegetable: Fixed or expressed—						
Chinese nutgallons	7,180	8, 121	9,062 72	11, 077 25	3,633 2,373 189,717	2,470 519
Coconut oildo	281, 063 27, 806 2, 152 9, 024 282	35, 380	216,327 9,458 4,693	33, 080 1, 305	189, 717 669	15,324 58
Lanseed gallons	2,152	3,673 3,040 18,014	4,693	6, 489	8.012	4,016
Olive other	9,024	435	4,013	6, 489 12, 169 132	556	11, 151 436
Palm oilpounds	41,818 1,929	4,317 143	41,948	5,430 238	23, 155 2, 383	1,422 195
Peanutgallons	20, 540	22,010 1,306	1,694 12,683 1,721	16, 990 1, 922	403	314
Fixed or expressed— Chinese nut. gallons. Cocoa butter or butterine pounds. Coconut oil do Cottonseed do Linseed gallons. Olive, edible do Olive, edible do Palm oil pounds. Palm kernel do Peanut. gallons. Rapeseed do Soya bean pounds.	1,117 195,808	1,306 24,019 2,558	112, 214	13, 721 1, 865	954 17, 283	789 701 294
Total, fixed or expressed		123,017		104, 443		37,689
Volatile or essential— Birch and cajaput pounds Lemon do Other	. 607	13 612 6,358	22 751	10 1,063 7,973	618	2 448 3,385
Total, volatile or essential		6,983		9,046		3,835
Total vegetable oils.		130,000		113, 489		41, 524
Opium, crudepounds	730	8, 280	211	1,312	102	345
Rice, rice meal, etc.: Rice—						
Cleanedpounds. Uncleaned, including paddydo Rice flour, rice meal, and broken rice	144,090 29,495	9, 905 2, 250	111,694 29,536	11,475 2,485	63,100 20,006	2,139 1,059
Rice flour, rice meal, and broken rice	1,010	87	1,721	126	787	54
Total rice, etcdo	174, 595	12, 242	142, 951	14,086	83,893	3, 252
Sago, tapioca, etcdo	99 275	5 208	(04 848	5 000	51 819	1 77

Table 514.—Agricultural imports of the United States during the 3 years ending Dec. 31, 1921—Continued.

			Year endir	ng Dec. 31-		
Article imported.	19	19]:	920	1921	
	Quantity	Value.	Quantity.	Value.	Quantity.	Value.
VEGETABLE MATTER—continued Seeds:	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands.	Thou- sands	Thou- sands,
Castor beanbushels	1,209	\$3,674	1,239	\$2,842	731	\$907
Red pounds Other do Flaxseed bushels Grass seed, n e s pounds Mustard do Sugar beet do Other	7,026 18,016 14,036 15,610 14,226 9,830	2,410 4,992 44,360 2,605 1,260 2,137 7,757	12,693 12,794 24,641 21,113 9,063 23,446	4,627 2,908 74,623 4,485 952 5,213 6,816	22,614 12,326 19,039 7,564 7,726	2,358 2,747 20,439 2,085 303 1,515 4,142
Total seeds		69,195		102,466		34,496
Spices: Unground— Capsicumpound Cassiado. Clovesdo. Ginger root, not preserveddo. Nutmegsdo. Pepper, black or whitedo.	1,161 8,710 6,150 4,374 4,099 22,826	154 878 1,523 521 754 3,703	3,660 6,750 6,250 8,125 4,218 13,828	559 707 2,257 1,146 816 2,418	2,128 5,426 4,363 4,010 2,978 33,849	268 286 717 370 313 2,635
Total ungrounddo	47,320	7,533	42,831	7,903	52,754	4,589
Ground— Capsicumdo Mustarddo	1,561 1,500	501 797	2,934 1,593	1,178 790	2,975 1,175	429 645
Total grounddo	3,061	1,298	4,527	1,968	4,150	1,074
Other spicesdo	6,060	972	13,500	1,771	7,487	539
Total spicesdo	56,441	9,803	60,918	11,642	64,391	6,202
Starchdo	2,612	243	19,139	1,017	5,984	248
Sugar and molasses: Molassesgallons	120,156	4,177	160,208	5,119	78,110	1,884
Sugar— pounds Beet dododododo	7,019,690 3,928	393,171 1,110	36,754 8,028,668 8,338	6,402 1,008,786 1,975	5,967,486 1,906	235,286 207
Total sugardo	7,023,619	394,281	8,073,760	1,017,163	5,969,406	235, 494
Total sugar and molasses		398,458		1,022,282		237,378
Teapounds	80,963	20,146	90,247	24,392	76,487	14,234
Tobacco: Wrapperdo Fillerdo	7,775 78,210	10,158 64,987	11,768 70,454	18,272 63,358	5,914 47,080	10,462 43,710
Total tobaccodo	85,985	75,145	82,222	81,630	52,994	54,172
Vamlla beansdo	1,150	2,407	1,240	2,406	. 984	1,380
Vegetables: Fresh and dried— Beansbushels. Garliepounds. Onionsbushels. Peas, drieddo. Potatoes—	4,972 9,961 741 2,141	17,527 1,335 1,018 7,489	2,095 7,705 1,819 1,803	7,510 872 2,364 7,643	274 7,031 1,976 513	648 379 2,248 1,175
Irish do Sweet and dessicated or propared.	5,544	5,907	6,062	12,527	2,018	1,752.
Other		480 2,157		348 2,720		2,766
Total fresh and dried		35,913	l	33,981		9, 121

Table 514.—Agricultural imports of the United States during the 3 years ending Dec. 31, 1921—Continued.

	Year ending Dec. 31—							
Article imported.	19	919	19	920	1921			
	Quantity	Value.	Quantity.	Value	Quantity	Value.		
VEGETABLE MATTER—continued.								
Vegetables—Continued Prepared or preserved— Mushroomspounds Pickles and sauces	Thou- sands 2,093	Thou- sands. \$1,356 1,195 2,182	Thou- sands 3,220	Thou- sands \$1,565 1,554 3,319	Thou- sands. 4,954	Thou- sands. \$1,635 2,053 3,141		
Total prepared or preserved		4,733		6,438		6,829		
Total vegetables		40,646		40,422		15,950		
Vinegar gallons Wax, vegetable pounds	99 10,814	59 3,810	193 6,554	90 2,168	142 6,701	73 1,126		
Total vegetable matter, includ- ing forest products		1,772,033		2,722,186		1,011,145		
Total vegetable matter, excluding forest products		1,397,578		2,200,851		791,745		
Total agricultural imports, in- cluding forest products		2,767,335		3,532,707		1,469,168		
Total agricultural imports, excluding forest products		2,392,879		3,011,372		1,249,768		

Table 515.—Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921.

[The figures are in round thousands, i e, 000 omitted.]

	Year ending Dec. 31—						
Article exported.	19	19	19	20	19	21	
	Quantity	Value	Quantity.	Value	Quantity	Value.	
ANIMAL MATTER. Animals, live: Catile		Thou-sands. \$6,440 2,856 1,189 370 684 465	Thou-sands 85 14 9 49 55	Thou-sands. \$10,753 2,716 1,866 572 1,724 702	Thou-sands. 197 17 9 117 123	Thou-sands. \$11,741 2,063 715 605 1,804 939	
Beeswaxpounds		92	633	295	98	30	
Dairy products: Butterdo Cheesedo Milk	1	17,504 5,350	17,488 16,292	10,142 5,054	8,015 11,772	3,270 2,716	
Condensed, evaporated, and pow- dered pounds. Other, including cream	852,865	121,893 1,730	414, 250	65,239 382	299, 168	∘∵ 37,680 480	
Total dairy products		146,477		80,817		44, 146	
Eggs dozen Egg yolks, canned eggs, etc. Feathers Fibers animal wool		18,812 132 863	26,842	13,569 310 679	33, 291	10,811 156 303	

Table 515.—Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921—Continued.

		ena rese sucem estre Pineres	Year endin	g Dec. 31–		
Article exported.	19	19	19	20	19	21
	Quantity	Value.	Quantity	Value.	Quantity	Value
ANIMAL MATTER—continued						
Packing-house products: Beci— Canned pounds Cured or pickled do Fresh do Oils, oleo oil do Oleomargarine do Stearin do Tallow do	Thou- sands. 53, 867 42, 805 174, 427 75, 585 22, 940 20, 855 38, 954	Thou-sands \$20,673 8,739 40,281 22,025 6,577 4,171 6,370	Thou- sands 23,766 25,771 89,649 74,368 16,558 17,513 20,692	Thou- sands. \$5,790 3,660 17,565 16,585 4,567 3,488 2,951	Thou- sands. 6,077 24,591 10,341 127,978 3,329 32,696 13,798	Thou-sands \$1,276 2,594 1,799 14,618 672 3,264 - 1,017
Total beefdo	429, 433	108,836	268,317	54,606	218,810	25, 230
Bones, hoofs, and horns		371		270		101
Lubricating. Soap stock. Hair		6,040 6,656 1,551		7,372 6,698 1,328		4,480 4,481 585
Hides and skins other than furs— Caliskins. pounds. Catile. do. Horse. do. Other do.	4,654 16,996 467 2,806	3,218 6,290 135 1,252	1,140 11,485 655 4,122	680 3,761 143 1,619	5,349 20,693 222 4,313	1,152 2,170 21 724
Totaldo	24,923	10,895	17,402	6,203	30,577	4,067
Lard compounds do. Meat, canned, n. c. s. Mutton pounds Oils, animal, n. c. s. gallons	124,963 3,009 1,950	31,606 12,951 633 2,955	32,051 3,575 517	7,219 6,480 759 774	48, 207 7, 515 368	5,549 5,008 1,255 323
Pork—Canned pounds	5,792	2,422	1,802	752	1,150	345
Cured — Bacon do. Hams and shoulders do. Salted or pickled. do.	1,190,297 596,796 34,114	373,913 189,429 8,633	636,676 185,247 38,709	156, 297 50, 888 7, 670	415,356 232,324 32,843	68,180 47,750 4,216
Total cureddo		571,975	860,632	214, 855	680, 523	120,146
Fresh	26,777 760,902 22,957 1,087	8,348 237,983 7,726 220	38,305 612,250 23,238 667	9,090 143,371 5,806 128	56,083 868,942 23,951 589	9,337 112,533 3,438 59
Total porkdo	2 , 6 3 8, 721	828,674	1,536,894	374,002	1,631,238	245, 858
Sausage— Canned pounds Other do Sausage casings do All other	8, 198 13, 889 25, 477	2,762 5,912 6,810 11,643	7,158 10,509 25,238	2,345 4,188 5,861 7,170	2,556 6,352 31,521	875 2,116 6,244 5,081
Total packing-house products		1,038,295		485, 275		311, 252
Poultry and game		4, 560		757		1,057
Total animal matter		1,226,901		607,648		386,756
VEGETABLE MATTER. Broom com. long tons Cocoa and chocolate.	4	900 21,381	4	777 9, 048	3	404 1,162
Coffee: pounds. Roasted do do	28,289 6,062	7,296 1,521	34,786 1,972	9, 224 580	33,390 1,183	* 5,591 305
Total coffeedo	34,351	8,817	36,758	9,804	34, 573	5,896

Table 515.—Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921—Continued.

Vegetable Matter—continued. Quantity. Value Quantity. Value Quantity. Value Quantity. Value Quantity. Value Quantity. Value Quantity. Value Value Quantity. Value				Year endu	ig Dec. 31-		
Vegetable Matter	Article exported.	19	919	19	20	1921	
Colton: Seas Saland Dounds Sands S		Quantity.	Value.	Quantity.	Value	Quantity.	Value
Seal Island						Thou-	Thou-
Playering extracts and fruit juices	San Teland naunds	2 402	\$1,543 1,134,817	975 3,154,236	\$919 1,133,871	sands.	sands \$18 532,781
Flowers, cut.	Total cottondo	3,367,678	1,137,371	3,179,314	1,136,409	3, 339, 113	534,242
Barks, and extracts of, for tanning— Barks. long tons. 1	Flavoring extracts and fruit juices		1,342 171		1,428 181		
Logwood extracts	Barks, and extracts of, for tanning—	1		(1)	3,678	(1)	17 1,108
Moss	Total bark, etc		5,646		3,696		1,185
Rosin			1,356 91		2,605 115		
Wood—	Rosin harrels	67	552	51	448	27	5, 202 213 6, 032
Logs and round timber Fir	Total naval stores		31, 434		34,503		11, 449
Total do 38 964 83 2,985 81 3,329 Lumber Boards, deals, and planks— Cypress. M feet. 15 925 11 908 5 1437 Fin do 301 9,722 451 17,641 455 10,316 Gum do 72 4,034 27 2,748 28 1,478 Oak do 158 11,747 105 12,459 69 5,167 Pine, white do 24 1,353 39 2,693 15 1,043 Pine, yellow— Pitch do 438 17,734 637 37,695 433 10,626 Short-leaf do 20 829 16 888 4 102 Other do 70 2,573 105 5,276 77 2,511 Poplar do 36 2,605 19 2,314 10 986 Redwood do 34 1,418 45 3,159 16 1,021 Spruce do 22 1,919 22 1,781 7 336 Other— Hardwood do 102 9,113 60 7,906 35 3,727 Softwood do 19 788 14 913 51 1,889 Total do 1,311 64,860 1,551 96,381 1,205 45,699 Railroad ties number 4,700 4,179 4,240 5,566 3,150 4,390 Shingles M 16 89 34 197 21 128 Shooks— Box Cooperage number 2,857 8,489 1,747 6,916 462 2,109 Other do 480 546 180 159 183 99 Total shooks 11,856 13,160 82,584 15,408 34,691 3,601 Total staves and heading— Heading 540 13,751 10,436 3,796 Other 13,751 10,436 3,796	Logs and round timber— Fur	8 7	137 251	10	307 640	11	193 794
Lumber	Soitwooddo						
Boards, deals, and planks		38	964	83	2,985	81	3,329
Other	Boards, deals, and planks— Cypress	301 72 158 24	9,722 4,034 11,747 1,353	451 27 105 39	17,641 2,748 12,459 2,693	455 28 69 15	10,316 1,478 5,167 1,043
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Other do do Poplar do Redwood do Spruce do	20 70 36 34	829 2,573 2,695 1,418	16 105 19 45	5,276 2,314 3,159 1,781	4 77 10 16	2,511 986 1,021
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Hardwooddo		9,113 798		7,906 913		3,727 1,889
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$				I			
Box 2,821 4,249 2,535 Cooperage number 2,857 8,489 1,747 6,916 462 2,109 Other do 480 546 180 159 183 90 Total shooks 11,856 11,324 4,734 Staves and heading— 591 1,028 195 Staves number 81,658 13,160 82,584 15,408 34,691 3,601 Total staves and heading- 13,751 16,436 3,796 Other 3,790 5,093 2,569	Shingles		4,179 89	4,246	5,566	3,150	4,390
Staves and heading— 1,028 1,028 Heading 81,658 13,160 82,584 15,408 34,691 3,601 Total staves and heading- 13,751 16,436 3,796 Other 3,790 5,093 2,569	Box	2,857 480	8,489	1,747 180	6,916		2,109
Heading 591 1,028 1,1028 1,958 Staves number 81,658 13,160 82,584 15,408 34,691 3,601 Total staves and heading 13,751 16,436 3,796 Other 3,790 5,093 2,569			11,856		11,324		4,734
Total staves and heading- 13,751 16,436 3,796 Other 3,790 5,093 2,569	Heading.	81,658		82,584	1,028 15,408	34,691	195 3, 601
			13,751		16,436		3,796
	Other Total lumber		3,790		5,093		2,569

Table 515.—Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921—Continued.

			Year endın	g Dec 31-		
Article exported.	19	19	19	20	199	21
	Quantity	Value.	Quantity	Value.	Quantity.	Value.
VEGETABLE MATTER—continued Forest products—Continued Timber— Hewn— Hardwood M feet Softwood do	Thou- sands. 4 5	Thou- sands. \$269 146	Thou- sands. 3	Thou- sands \$212 228	Thou- sands. 2 1	Thou- sands. \$144 44
Sawed— Pitch pinedo Other— Annual do	154 5	6,960 330	135	6, 862 282	87 4	2,692
Hardwood doSoftwood do	15	439	22	757	41	241 1,015
Total timberdo	183	8, 144	171	8,341	135	4,136
All other, including firewood		365		413	<u> </u>	329
Total wood		107, 998		146, 736		69,110
Wood alcohol gallons Wood pulp long tons	718 36	750 3,048	703 29	1, 244 2, 947	412 25	453 1,755
Total forest products		150, 324		191, 847		84,602
Fruits: Fresh or dried— Apples, dried	24, 704 1, 712 37, 144 307 1, 777 9, 022 108, 208 110, 183	4, 110 14, 471 8, 505 1, 182 1, 372 7, 638 1, 560 1, 765 15, 722 13, 089	8, 828 1, 798 9, 881 293 1, 518 7, 925 75, 139 53, 312	1, 509 14, 089 2, 582 792 1, 188 7, 519 1, 466 2, 202 11, 738 9, 505	19, 962 1, 936 21, 575 304 2, 221 6, 893 117, 934 32, 969	2, 207 13, 982 4, 110 775 1, 296 8, 375 785 1, 781 9, 280 5, 517
Other— Dried Fresh Waste, cannery (pulp, cores, etc.)pounds.		2,557 4,713	1,248	2, 168 4, 188	2, 162	1,150 3,997
Total, fresh or dried		76,684	1,220	59,023	2, 102	53,328
Preserved— Canned— Peaches Other Other		9,490 31,986 4,518		6,342 15,172 1,882		4,050 10,331 617
Total preserved		45,994		23, 390		14, 998
Total fruits		122,678		82,419		68, 326
Ginsengpounds. Glucose and grape sugar.	308	3,339	160	1,875	182	1,507
Glucose. pounds Grape sugar do	220, 381 35, 237	13, 169 1, 971	144,760 17,736	8, 994 1, 074	227, 662 18, 111	6, 100 563
Grain and grain products. Grain— Barley bushels Buckwheat do Corn do Oats do Rye do Wheat do	37,612 186 11,193 55,294 32,898	53, 832 307 18, 624 46, 435 61, 786 356, 898	17, 854 300 17, 761 12, 878 57, 070 218, 287	27, 165 543 26, 454 12, 338 122, 240 596, 975	25, 834 429 128, 974 3, 224 29, 812 280, 058	20, 687 544 92, 767 1, 610 44, 218 433, 053
' Total graindo		537, 882	324, 150	785, 715	468, 331	592,876
Grain products— Bran and middlings long tons. Bread and biscuit. pounds. Cereal preparations, for table food Distillers' and brewers' grains,	5	233 2, 506 8, 819	18,755	163 3, 732 7, 189	9,060	257 1,524 3,945
long tone	9	126	(1)	94	(1)	6

Table 515.—Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921—Continued.

		7	Year endın	g Dec. 31—		The same of the sa
Article exported.	191	19	19	20	192	21
	Quantity	Value.	Quantity	Value.	Quantity.	Value
VEGETABLE MATTER—continued.						***************************************
Grain and grain products—Continued. Grain products—Continued Meal and flour— Bailey flour bairels. Cornineal do. Oatimeal pounds. Rye flour barrels. Wheat flour do.		Thou-sands. \$2,572 10,920 11,999 12,425 293,453	Thou- sands. (1) 867 65, 921 364 19, 854	Thou- sands. (1) \$7,478 3,891 3,638 224,472	Thou- sands 803 98, 839 56 16, 801	Thou- sands \$3, 695 3, 745 374 117, 698
Total meal and flour		331, 369		239, 479		125, 512
Mill feedlong tons	12	784	10	580	16	576
Total grain products		360, 532		258, 762		143, 056
All other		3, 804		4, 754		2, 576
Total grain and grain products		902, 218		1,049,231		738, 508
Hay long tons. Hops pounds. Liquois, alcoholic. Nursery stock	20, 798	963 8, 832 19, 450 405	25, 624	1,797 17,088 24,471 405	52 18,460	1, 111 6, 323 3, 421 352
Nuts [*] Peanuts pounds. Other	19,778	2, 123 1, 462	9,366	1, 115 857	14, 493	953 878
Total nuts		3, 585		1,972		1, 831
Oil cake and oil-cake meal Cornpounds	1 1	27	131 314,018	4 8,818	4, 206	70 7,858
Cake do. Meal do. Flaxseed or linseed— Cake do.	233, 507 327, 923	12,919 7,262 11,657	26, 028 223, 286	7, 639	423, 382 162, 207	2, 993 12, 268
Meal do Other do		846 3, 330	12, 339 13, 761	404 416	542, 464 19, 803 54, 422	422 878
Total oil cake and mealdo	1, 087, 228	36, 041	589, 563	18, 012	1, 206, 484	24, 489
Oils, vegetable* Fixed or expressed— Cocoa buttet pounds. Coconut do Corn do Cottonseed do Linseed gallons Peanut pounds. Soya bean do Other	2 110 619	2 3, 032 2 24, 601 1, 551 40, 890 2, 607 2 1, 043 2 6, 098 18, 507	5, 377 25, 695 12, 059 184, 754 715 1, 425 43, 512	1, 949 4, 908 2, 415 34, 875 1, 240 291 9, 412 1, 886	2, 855 7, 498 4, 400 252, 549 468 1, 708 1, 944	756 724 492 24, 362 406 183 177 568
Total, fixed or expressed		98, 329		56, 976		27, 668
Volatile or essential— Peppermint pounds. Other	98	654 1, 367	62	457 1,571	105	265 532
Total volatile or essential		2, 021		2,028		797
Total vegetable oils		100, 350		59,004		28, 465
Ricepounds Roots, herbs, and barks, n e.s	376, 876	34, 776 1, 632	392, 613	37, 469 1, 466	600, 059	20, 727 607

¹ Less than 500. 2 July 1 to Dec. 31.

Table 515.—Agricultural exports (domestic) of the United States during the 3 years ending Dec. 31, 1921—Continued.

	Year ending Dec. 31—							
Article exported.	19	19	19	20	1921			
	Quantity.	Value.	Quantity	Value	Quantity.	Value		
VEGETABLE MATTER—continued.	Thou-	Thou-	Thou-	Thou-	Thou-	777		
Seeds: Cotton pounds. Flaxseed or linseed bushels.	sands. 1,919 17	sands. \$89 125	sands. 5, 270 16	sands. \$309 112	sands. 2,827	Thou- sands. \$100 2		
Grass and clover seed— Clover pounds Timothy do Other do.	7, 944 13, 346 4, 440	3, 206 1, 633 717	4, 986 13, 522 4, 252	1, 928 1, 666 813	5, 735 19, 902 5, 171	1, 146 1, 385 814		
Total grass and clover seedpounds.	25, 730	5, 556	22,760	4, 407	30, 808	3, 375		
All other seeds		2, 772		2, 187		1, 188		
Total seeds		8, 542		7,015		4,671		
Spices		588		516		191		
Starch. Corn starch pounds. Other do. Stearin, vegetable do.	179, 437 89, 704 4, 159	10, 220 5, 342 767	116, 463 31, 480 1, 810	6, 892 2, 054 352	228, 711 29, 085 2, 355	5, 200 801 230		
Sugar, molasses, and sirup: Molasses gallons Sirup do. Sugar, refined pounds	6, 686 16, 732 1, 475, 408	1,311 10,299 114,737	4, 828 6, 595 924, 192	1, 097 4, 164 91, 877	5, 552 5, 945 933, 792	1, 074 1, 624 48, 827		
Total sugar, molasses, and sirup		126, 347		100, 138		51, 525		
Tobacco Leaf pounds Stems and trimmings do	765, 913 10, 765	259, 438 547	467, 662 12, 238	244, 897 635	515, 353 7, 403	204, 713 390		
Total tobaccodo	776, 678	259, 985	479, 900	245, 532	522,756	205, 133		
Vegetables: Fresh or dried— Beaus	3, 795 817 476 3, 642	19, 966 2, 095 2, 665 6, 475	1, 765 946 296 4, 154	7, 672 2, 076 1, 416 10, 200	1,410 867 125 3,500	4, 852 1, 279 531 4, 720		
Total fresh or drieddo	8,730	31, 201	7, 161	21, 364	5,902	11, 382		
Prepared or preserved— Canned Pickles and sauces.		11, 355 2, 040		6, 340 2, 273		3, 428 1, 921		
Total prepared or preserved		13, 395		8,613		5, 349		
All other vegetables		3, 237		2, 807		2, 721		
Total vegetables		47, 833		32,784		19,452		
Vinegar gallons Yeast	469	136 1, 100	291	113 646	186	59 690		
Total vegetable matter, including forest products		3, 030, 582		3, 050, 820		1, 817, 596		
Total vegetable matter, excluding forest products.		2, 880, 258		2, 858, 972		1, 732, 994		
Total agricultural exports, including forest products.		4, 257, 483		3, 658, 467		2, 204, 352		
Total agricultural exports, excluding forest products		4, 107, 159		3, 466, 620		2, 119, 750		

¹ Less than 500.

Table 516.—Value of principal groups of farm and forest products exported from and imported into the United States, 1919–1921.

[Compiled from reports of Foreign Commerce and Navigation of the United States]

	Exports	(domestic dise).	merchan-		Imports		
Article.	Years er	iding Dece	mber 31—	Years er	iding Dece	mber 31—	
	1919	1920	1921	1919	1920	1921	
FARM PRODUCTS.							
ANIMAL MATTER. Animals, live Darry products. Eggs, fiesh, canned, etc. Feathers, crude. Packing house products. Silk Wool. Other animal matter.		Thou-sands. \$18,333 80,817 13,879 679 485,275 4,937 3,728	Thou- sards. \$17,867 44,146 10,967 303 311,252 528 1,693	Thou- sands. \$58, 037 12, 863 14, 926 3, 551 345, 361 341, 587 216, 765 1, 913	Thou-sands. \$31,552 36,337 12,443 2,597 300,939 301,0.8 126,971 4,641	Thou-sana. \$9,081 20,480 5 250 2,059 9:,505 264,723 60,7481 2,014	
Total animal matter	1, 226, 901	607, 648	386,756	995, 303	810, 520	458, 023	
Argols or wine lees. Cocoa and chocolate. Coofee. Cotton Fibers, vegetable, other Frunts Ginseng Glucose and grape sugar. Grain and grain products Hay. Hops Indigo Licerice root. Liquiors, alcoholic. Nusery stock. Nuss Oil cake and meal Opium, crude. Oil, vegetable. Rice, including flour, meal, etc. Sago, tapioca, etc. Seeds. Spices. Starch. Sugar, molasses and sirup. Tea. Tobacco. Vanilla beans Vegetables. Wax, vegetable. Other vegetable. Other vegetable. Other vegetable. Other vegetable.	8, 832 19, 450	9, 048, 9, 804 1, 136, 409 82, 419 1, 875, 10, 068 1, 049, 231 17, 797 17, 088 1, 907 24, 471 405 1, 972 18, 012 59, 004 37, 469 7, 015 516 8, 946 100, 138 245, 532 32, 784 4, 969	1,162 5,896 534,242 68,326 1,507 6,633 735,508 1,111 6,323 3,421 352 1,331 24,489 28,465 20,727 4,671 1,946 6,001 51,525 205,133	4, 287 58, 341 201, 771, 846 81, 778 38, 315 38, 315 38, 356 692 3, 385, 356 525 4, 421 57, 511 2, 871 2, 871 2, 287 9, 803 243 398, 456 69, 195 9, 803 244 398, 456 40, 195 9, 803 244 398, 456 40, 195 9, 803 244 398, 456 398,	4, 165 51, 8.11 232, 451 138, 714 80, 377 56, 561 165, 331 4, 482 2, 933 2, 787 3, 445 3, 269 4, 415 1, 312 113, 480 14, 086 5, 929 102, 466 11, 642 1, 017 1, 022 2, 188 2, 498 40, 422 2, 168 40, 422 2, 168 787	1, 177 23, 566 142, 809 32, 902 33, 907 44, 380 48, 638 48, 638 287 2, 516 4, 714 5, 221 1, 755 41, 324 3, 252 1, 772 34, 496 6, 202 248 237, 378 24, 14, 234 54, 172 1, 1380 15, 950 1, 126	
Total vegetable matter	2, 880, 258	2, 858, 972	1, 732, 994	1, 397, 576	2, 200, 851	791, 745	
Total farm products	4, 107, 159	3,466.620	2, 119, 750	2, 392, 879	3, 011, 371	1, 249, 768	
FOREST PRODUCTS.							
Cork wood or cork bark Dyewoods and extracts of Gums Naval stores. Tanning materials n. e. s. Wood Wood Wood pulp Other forest products.	31, 434 5, 646 107, 998 3, 048 842	2,605 34,503 3,696 146,736 2,947 1,360	590 11,449 1,185 69,110 1,755 513	1,803 798 251,944 9,427 71,188 37,048 2,248	2,725 2,427 300,204 11,311 111,172 89,418 4,081	960 820 98, 160 8, 191 70, 632 39, 396 1, 241	
Total forest products	150, 324	191,847	84,602	374, 456	521, 338	219, 400	
Total farm and forest products	4, 257, 483	3,658,467	2, 204, 352	2,767,335	3, 532, 709	1, 469, 168	

Table 517.—Exports of selected domestic agricultural products, 1852-1921.

[Compiled from reports of Foreign Commerce and Navigation of the United States. Where figures are lacking, either there were no exports or they were not separately classified for publication. "Beef salted or pickled," and "Pork, salted or pickled," harrels, 1851–1865, were reduced to pounds at the rate of 200 pounds per barrel, and tierces, 1855–1866, at the rate of 300 pounds per there, coftonseed oil, 1910, pounds reduced to gallons at the rate of 75 pounds per gallon. It is assumed that I barrel of corn meal is the product of 4 bushels of corn, and I bairel of wheat flour the product of 5 bushels of wheat pilor to 1880 and 4½ bushels of wheat in 1880 and subsequently]

				Packing-house products.								
Year ending June 30—	Cattle.	Cheese.	Beef, cured— salted or pickled.	Beef, fresh.	Beef oils— oleo oil.	Beef tallow.	Beef and its prod- ucts— total, as far as ascer- tain- able 1	Pork, cured— bacon.	Pork, cured— hams and shoul- ders.	Pork, cured— salted or pickled.		
Average* 1852-1856. 1857-1861. 1862-1866. 1867-1871. 1872-1876. 1877-1881.	Thou- sands. 1 20 7 46 127	1,000 pounds. 6,200 13,906 42,683 52,881 87,174 129,670	1,000 pounds. .25,981 .26,986 .27,663 .26,955 .35,827 .40,175	1,000 pounds.		1,000 pounds. 7,469 13,215 43,203 27,578 78,904 96,823	1,000 pounds. 33,149 40,200 70,865 54,532 114,821 218,710	1,000 pounds. 30,005 30,583 10,797 45,790 313,402 643,634	1,000 pounds.	1,000 pounds. 40,543 34,854 52,551 28,879 60,429 85,968		
1882-1886 1887-1891 1892-1896 1897-1901 1902-1906 1907-1911 1912-1916	132 244 349 415 508 254 35	108,790 86,355 66,906 46,109 19,244 9,152 22,224	47, 401 65, 614 64, 890 52, 242 59, 208 46, 187 31, 440	97, 328 136, 448 207, 373 305, 626 272, 148 144, 800 86, 135	30, 276 50, 482 102, 039 139, 373 156, 925 170, 530 99, 892	48,745 91,608 56,977 86,082 59,893 66,356 24,476	225, 626 411, 798 507, 177 637, 268 622, 843 448, 024 281, 576	355,905 419,935 438,848 536,287 292,722 209,005 306,012	47, 635 60, 697 96, 107 200, 853 206, 902 189, 603 203, 076	72, 355 73, 985 64, 827 112, 788 116, 823 90, 810 52, 946		
1901 1902 1903 1904 1905	459 393 402 593 568	39, 814 27, 203 18, 987 23, 335 10, 134	55,313 48,633 52,801 57,585 55,935	351,748 301,824 254,796 299,580 236,487	161,651 138,546 126,010 165,184 145,228	77, 167 34, 066 27, 369 76, 924 63, 537	705, 105 596, 255 546, 055 663, 147 575, 875	456, 123 3×3, 151 207, 336 249, 666 262, 247	216, 572 227, 653 214, 183 194, 949 203, 459	138,644 115,896 95,287 112,225 118,887		
1906 1907 1908 1909	584 423 349 208 139	16,562 17,285 8,439 6,823 2,847	81,088 62,645 46,958 44,494 36,554	268, 054 281, 652 201, 154 122, 953 75, 730	209,658 195,337 212,541 179,985 126,092	97,567 127,558 91,398 53,333 29,380	732, 885 689, 752 579, 303 418, 844 286, 296	361, 211 250, 419 241, 190 244, 579 152, 168	194, 211 209, 481 221, 770 212, 170 146, 885	141, 821 166, 427 149, 506 52, 355 40, 032		
1911 1912 1913 1914	150 106 25 18	10,367 6,338 2,599 2,428	40, 284 38, 088 25, 857 23, 266	42,511 15,264 7,362 6,394	138,697 126,467 92,850 97,017	29, 813 39, 451 30, 556 15, 813	265, 924 233, 925 170, 208 151, 212	156,675 208,574 200,994 193,964	157, 709 204, 044 159, 545 165, 882	45,729 56,321 53,749 45,543		
1915 1916 1917 1918 Calendar	5 21 13 18	55, 363 44, 394 66, 050 44, 303	31, 875 38, 115 58, 054 54, 468	170, 441 231, 214 197, 177 370, 033	80,482 102,646 67,110 56,603	20, 240 16, 289 15, 209 5, 015	394, 981 457, 556 423, 674 600, 132	346,718 579,809 667,152 815,294	203, 701 252, 209 266, 657 419, 572	45,656 63,461 46,993 33,222		
year: 1918 1919 1920 1921	17 70 85	48,405 14,160 16,292 11,772	44, 206 42, 805 25, 771 24, 591	514, 342 174, 427 89, 649 10, 341	69, 106 75, 585 74, 368 127, 978	4,223 38,954 20,692 13,798	792, 793 429, 432 268, 317 218, 810	1,104,788 1,190,297 636,676 415,356	537, 213 596, 796 185, 247 232, 324	36,672 34,114 38,709 32,843		

Includes canned, cured, and fresh beef, oleo oil, eleomaigarine, tallow, and stearin from animal fats.

Table 517.—Exports of selected domestic agricultural products, 1852-1931—Continued.

	Pacl	ang-house 1	n od nete	T	1	1	,	T	onunued.
Year ending June 30—	Pork— lard	Pork and	Lard com-	Apples	Corn and corn meal (ii terms of grain).	Cotton	Glucose and grape sugar.	Corn- oil cake and oil- cake meal.	seed oil- cake and oil- cake
Average: 1852-1856 1857-1861 1862-1866 1867-1871 1872-1876 1877-1881	37, 966 89, 138 53, 579 194, 198	1,000 pounds. 103,903 103,404 252,486 128,249 568,029 1,075,793	i,000 pounds.	119	1,000 bushels 7,123 6,558 12,060 9,924 38,561 88,190	1,000 pounds. 1,110,498 1,125,715 137,582 902,410 1,248,805 1,738,892			povnds.
1882–1886. 1887–1891. 1892–1896. 1897–1901. 1902–1906. 1907–1911.	381, 389 451, 547 652, 418 592, 131 519, 746	739, 456 936, 248 1, 052, 134 1 528, 139 1, 242, 137 1, 028, 997	21, 792 52, 954 75, 765	402 523 521 780 1,369 1,226	49, 992 54, 606 63, 980 192, 531 74, 615 56, 568	1,968,178 2,439,650 2,736,655 3,447,910 3,632,268 4,004,770	4,474 27,686	21, 888 61, 733	
1912-1916		J, 109, 488	62, 221	1,786	38,774	4, 169, 202	183,141	54, 361	1,151,609
1901 1902 1903 1904 1905	611, 358 550, 840 490, 756 561, 303 610, 239	1, 462, 370 1, 337, 316 1, 042, 120 1, 146, 255 1, 220, 032	23, 360 36, 202 46, 130 53, 604 61, 215	884 460 1,656 2,018 1,500	181, 405 28, 029 76, 639 58, 222 90, 293	3,359,062 3,528,975 3,569,142 3 089,856 4,339,322	204, 210 130, 420 126, 240 152, 769 175, 251	12, 703 14, 740 8, 093 14, 015 24, 171	1, 258, 687 1, 050, 466 1, 100, 393 820, 349 1, 251, 908
1906 1907 1908 1909 1910	741, 517 627, 560 603, 414 528, 723 362, 928	1, 464, 960 1, 268, 065 1, 237, 211 1, 053, 142 707, 110	67,621 80,149 75,183 75,183 74,557	1,209 1,539 1,050 896 922	119, 894 86, 368 55, 064 37, 665 38, 128	3,634,045 4,518,217 3,816,999 4,447,985 3,206,708	189,656 151,629 129,687 112,225 149,820	48, 421 56, 809 66, 128 53, 234 49, 109	1,110,835 1,340,967 929,287 1,233,750 640,089
1911	476, 108 532, 256 519, 025 481, 458	879, 455 1, 071, 952 984, 697 921, 913	73, 754 62, 523 67, 457 58, 304	1,721 1,456 2,150 1,507	65,615 41,797 50,780 10,726	4,033,941 5,535,125 4,562,296 4,760,941	181, 963 171, 156 200, 149 199, 531	83, 385 72, 490 76, 263 59, 031	804,597 1,293,640 1,128,092 799,974
1915. 1916. 1917. 1918. Calendar year: 1918.	475,532 427,011 444,770 392,506	1, 106, 180 1, 462, 697 1, 501, 918 1, 692, 124	69, 981 52, 843 56, 359 31, 278	2,352 1,466 1,740 635	50, 668 39, 897 66, 753 49, 073	4, 403, 578 3, 084, 070 3, 088, 081 2, 320, 512	158, 463 186, 406 214, 973 97, 858	45, 026 18, 996 15, 758 458	1,479,065 1,057,222 1,150,160 44,681
1919	548, 818 760, 902 612, 250 868, 942	2, 251, 033 2, 638, 721 1, 536, 894 1, 631, 238	43,977 124,963 32,051 48,207	580 1,712 1,798 1,936	47, 059 16, 002 21, 230 132, 186	2,118,175 3,367,678 3,179,313 3,339,113	57, 332 255, 618 162, 496 245, 773	69 964 131 4,206	11,667 628,133 340,046 585,589

 $^{^{\}rm 1}$ Includes canned, fresh, salted or pickled pork, lard, neutral lard, lard oil, bacon, and hams.

Table 517.—Exports of selected domestic agricultural products, 1852-1921—Continued.

Year ending June 30—	Prunes.	Tobacco.	Hops.	Oils, vegeta- ble— cotton- seed oil.	Rice and rice bran, meal, and polish.	Sugar, raw and refined.	Wheat.	Wheat flour.	Wheat and wheat flour (in terms of grain).
Average: 1852-1856. 1857-1861. 1862-1866. 1867-1871. 1872-1876.	1,000 pounds.	1,000 pounds 140, 184 167, 711 140, 208 194, 754 241, 848 266, 315	4,719	1,000 gallons 547 4,498	65, 732 2, 258 1, 857 391	1,000 pounds 7,730 6,015 3,008 4,357 20,142 41,718	1,000 bushels. 4,715 12,378 22,530 22,107 48,958 107,781	1,000 barrels 2,892 3,318 3,531 2,585 3,416 5,376	1,000 bushels. 19,173 28,970 40,184 35,032 66,037 133,263
1882–1886 1887–1891 1892–1896 1897–1901 1902–1906 1907–1911 1912–1916	48, 551 47, 039 72, 599	237, 942 259, 248 281, 746 304, 402 325, 539 334, 396 408, 006	9, 584 7, 184 15, 147 15, 467 11, 476 14, 774 18, 533	3,468 7,121 15,783 42,863 38,606 38,784 39,801	561 3,210 10,278 18,407 45,978 27,195 60,043	107, 130 75, 074 13, 999 11, 214 14, 807 61, 430 470, 729	82, 884 64, 739 99, 914 120, 247 70, 527 62, 855 129, 415	8,620 11,287 15,713 17,151 15,444 11,841 13,185	121, 675 115, 529 170, 624 197, 427 140, 026 116, 138 188, 748
1901	10,022	315, 788	14, 964	49, 357	25, 528	8,875	132, 061	18,651	215, 990
1902	23,359	301, 007	10, 715	33, 013	29, 591	7,572	154, 856	17,759	234, 773
1903	66,385	368, 184	7, 795	35, 613	19, 750	10,520	114, 181	19,716	202, 906
1904	73,146	311, 972	10, 986	29, 014	29, 122	15,419	44, 230	16,999	120, 728
1905	54,994	334, 302	14, 859	51, 536	113, 283	18,348	4, 394	8,826	44, 113
1906	24,870	312,227	13,027	43,794	38,142	22, 176	34, 973	13, 919	97,609
	44,400	340,743	16,810	41,880	30,174	21, 238	76, 569	15, 585	146,700
	28,148	330,813	22,920	41,020	28,441	25, 511	100, 371	13, 927	163,044
	22,602	287,901	10,447	51,087	20,511	79, 946	66, 923	10, 521	114,268
	89,015	357,196	10,589	29,861	26,779	125, 507	46, 680	9, 041	87,364
1911	51,031	355, 327	13, 105	30, 069	30,063	54, 947	23,729	10, 129	69,312
1912	74,328	379, 845	12, 191	53, 263	39,447	79, 594	30,160	11, 006	79,689
1913	117,951	418, 797	17, 591	42, 031	38,908	43, 995	91,603	11, 395	142,880
1914	69,814	449, 750	24, 263	25, 728	22,414	50, 896	92,394	11, 821	145,590
1915	43,479	348, 346	16, 210	42, 449	77,480	549,007	259, 643	16, 183	332, 465
1916	57,423	443, 293	22, 410	35, 535	121,967	1,630,151	173, 274	15, 521	243, 117
1917	59,645	411, 599	4, 825	21, 188	181,372	1,248,908	149, 831	11, 943	203, 574
1918	32,927	289, 171	3, 495	13, 437	196,363	576,483	34, 119	21, 880	132, 579
Calendar year: 1918	22, 888	406, 827	3,670	15, 876	167,933	407, 296	111, 177	21,707	208, 857
	108, 208	776, 678	20,798	25, 751	376,876	1, 475, 408	148, 086	26,450	267, 111
	75, 139	479, 900	25,624	24, 634	392,613	924, 192	218, 287	19,854	307, 630
	117, 934	522, 756	18,460	33, 673	600,059	933, 792	280, 058	16,801	355, 662

Table 518 —Imports of selected agricultural products, 1852-1921.

[Compiled from reports of Foreign Commerce and Navigation of the United States. Where figures are lacking, either there were no imports or they were not separately classified for publication. Silk" includes, prior to 1881, only "Silk, raw or as reeled from the cocoon," in 1881 and 1882 are included this item and "Silk waste", after 1882, both these items and "Silk cocoons?". From "Cocoa and chocolate" are ornitted in 1860, 1861, and 1872 to 1881, small quantities of chocolate, the official returns for which were given only in value. "Jute and jute butts" includes in 1858 and 1859 an unknown quantity of "Hemp" Cattle hides are included in "Hides and skins other than cattle and goat" in 1895–1897. Ohre oil for table use includes in 1862–1864 and 1885–1905 all olive oil. Sizal grass includes in 1884–1890 "Other vegetable substances." Hemp includes in 1885–1888 all substantes for hemp]

Year ending June 30—	Cheese.	Silk.	Wool	Al- mond	Argols or wine lees.	Cocoa and choco- late, total.	Coffee.	Coin.	Oats, includ- ing oat- meal	Wheat.
Average 1852-1856 1857-1861 1862-1866 1867-1871 1872-1876 1877-1881	1,000 pounds. 1,054 1,378	1,000 pounds 682 1,095	1,000 pownd: 19,06	1,000 pound 7 3,46 3,25 2,48	1,000 pounds 1 1 2 1,355 2,361 2,951	1,000 pounds. 2,487 3,064 2,453 3,503 4,857 4,857	1,000 pounds. 196, 58 216, 23 124, 55 248, 72 307, 00 384, 28	2.1	1,000 bushels.	1,600 bushels. 2,122 2,617 1,296 1,308
1882–1886 1887–1891 1892–1896 1897–1901 1902–1906 1907–1911	8,335 9,650 12,589 22,166 37,663 47,988	4,673 6,564 8,383 10,962 17,188 22,143 33,242	85, 29 117, 76 162, 64 163, 97 193, 65 199, 56	4 5,86. 0 7,48. 9 7,36. 6 10,92. 3 15,29	17,552 1 21,434 3 26,470 1 24,380 1 27 647	6,315 11,568 18,322 25,475 38,209 70,901 113,673 182,395	529, 579 509, 360 597, 48 816, 579 980, 119 934, 531	9 24 8 15 4 8	118 105 51 94 11,650	871 507 339 1,629 1,274 873 206 2,321
1901 1902 1903 1904 1905		10, 406 14, 235 15, 271 16, 723 22, 357	103, 58 166, 57 177, 13 173, 74 249, 13	7 9,869 8 8,143 3 9,839	$\begin{array}{c c} 9 & 29,276 \\ 2 & 29,967 \end{array}$	47,620 52,879 65,047 75,071 77,383	854,87 1,091,00 915,08 995,04 1,047,79	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	39 150 184	600 119 1,077 7 3,103
1906	27, 287 33, 849 32, 531 35, 548 40, 818	17, 352 18, 744 16, 662 25, 188 23, 457	266, 40 263, 92	8 14,23 1 17,14 9 11,02 8 18,55	30,541 5 26,739 9 32,116 3 28,183	84, 127 97, 060 86, 605 132, 661 111, 071	890,64 1,049,86 871,47	$egin{array}{c c} 1 & 11 \\ 0 & 20 \\ 9 & 258 \\ 0 & 118 \\ \end{array}$	91 383 6,692 11,035	342 41 164
1911 1912 1913 1914	45,569 46,542 49,388 63,784	26, 666 26, 585 32, 102 34, 546	247,64	$ \begin{array}{c cccc} 1 & 17, 23 \\ 3 & 15, 67 \\ 9 & 19, 03 \end{array} $	$\begin{array}{c c} 1 & 23,661 \\ 1 & 29,479 \\ 3 & 29,793 \end{array}$	140,971 148,786 143,510 179,364		$\begin{bmatrix} 1 & 53 \\ 1 & 903 \\ 8 & 12,367 \end{bmatrix}$	1 2,622 1 724 1 22,274	2,699 798 1,979
1915 1916 1917 1918 Calendar year:	50,139 30,088 14,482 9,839	31, 053 41, 925 40, 351 43, 681	308, 08 531, 82 372, 37 379, 13	3 17,11 8 16,59 2 23,42 0 23,84	1 28,625 7 34,721 4 23,926 30,267	194,734 245,579 340,483 399,312	1,118,69 1,201,10 1,319,87 1,143,89	$ \begin{array}{c cccc} 4 & 5,208 \\ 1 & 2,267 \end{array} $	1 631 1 665 1 762 1 2,591	5,703 24,139 28,177
1918 1919 1920 1921		48,721 55,522 39,660 52,332	453, 72 445, 89 259, 61 320, 66	7 27,69- 3 35,49- 8 24,85- 6 25,27-	27,687 25,736 35,577 16,088	360, 015 392, 365 344, 986 306, 568	1,052,20 1,333,56 1,297,43 1,340,98	2 1,990 4 11,213 9 7,784 0 164	1 6,728	17, 036 7, 911 35, 809 23, 286
Year ending June 30—		heat out.	Wheat, nclud- ing wheat flour.	Flax- seed.	Un- manu- factured tobacco.	Flax	Hemp.	Hops.	Jute and jute butts.	Licorice root.
Average: 1852-1856	ha	,000 rrels. 411 104 74 7	1,000 ushels. 4,178 2,617 1,818 1,680 906	1,000 bushels. 1,133 1,037 2,915 1,224	1,000 pounds. 5,044 5,154 5,631 8,886 7,871	1 	23 23 22	1,000 pounds. l	17 3 15 49 62	1,000 pounds. 1,373 1,888
1882–1886		2 3 1 1 27 93 150	517 352 1,634 1,280 993 706 2,996	1, 541 1, 833 1, 181 404 231 3, 249 9, 227	13,672 21,640 25,871 16,958 33,805 42,813 55,556	6 7 7 7 9 10 9	31 37 5 4 5 6 7	1,619 7,772 2,386 2,382 5,206 6,770 5,839	91 105 84 94 102 100 105	59, 275 86, 445 87, 476 99, 543 96, 111 80, 459

¹ Does not include oatmeal

Table 518 —Imports of selected agricultural products, 1852–1921—Continued

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	Year ending June 30—	Whea	t II	heat, elud- ing heat loui	Flax- seed		Un- manu facture tobace	d	Flax.		Hemp	٥.	Hops		Jute and sute butts.	Licorice root.
	1901 1902 1903 1904	1,000 barret		1,000 shels 603 121 1,080 218 3,286	129 129 213	2 7 9	1,000 pounds 26,85 29,42 34,01 31,16 33,28	1 9 7	1	8 8		18 4 6 5 6 4	1,000 pounds 2,60 2,80 6,01 2,75 4,33	5 3 8	1,000 long tons 103 129 80 97 98	1,000 pounds 100,106 109,077 88,581 89,463 108,444
	1906. 1907. 1908. 1909.	1	15 18 10 22 15	262 590 520 457 816	96 55 59- 5,000	0 7 4 2	41, 12, 40, 89 35, 00, 43, 12, 46, 85	9 5 3	1	0 3	;	5 9 6 5 6	10, 11, 6, 21, 8, 49, 7, 38, 3, 20,	2 3 7	104 104 108 157 68	102, 152 66, 116 109, 356 97, 743 82, 207
	1911 1912 1913 1914	1	90 90	1,147 3,414 1,282 2,384	5,29 8,65	3	48,20 54,74 67,97 61,17	0	1 1 1	0		5 5 8 9	8,550 2,99 8,49 5,38	1 2	101 125 106	125, 135 74, 582 105, 116 115, 636
	1915	. 3	34 30 75 2 75 3	715 7, 188 24, 925 31, 215	11,679 12,39	9	45,80 48,07 49,10 86,99	5		5 7 8 6	1	5 7 0 7	11,65 676 23 12	7	83 108 113 78	65,959 41,003 59,400 26,983
	Calendar year 1918	19 8 9	17 3	17, 788 7, 986 89, 112 27, 633	14,030 $24,64$	6	90, 97 85, 98 82, 22 52, 99	7 6 2 4		8 4 7 4		4 2 8 7	$\begin{array}{c} 7 \\ 46 \\ 5,94 \\ 1,62 \end{array}$	7	71 62 96 62	27,100 49,892 56,226 53,550
	Year ending June 30—	Manıla.	Mola		Olive oil, for table use	O	pium, rude.	Po	otatoes	ric	ce and e flour, e meal, id bro- en lice.		Sisal grass	1	Sugar, aw and refined.	Tea.
	Average: 1852-1856 1857-1861 1862-1866 1867-1871 1872-1876	1,000 long tons 12	28,	000 0ns. 489 191 263 322 815 639	1,000 gallons. 178 153 175 219		1,000 ounds 110 114 129 209 365 408	ъ	1,000 ushels. 407 252 216 255 1,850	po	70, 893 52, 954 72, 536 52, 615	lon	1,000 ng tons	1	1,000 pounds 479,374 691,324 672,637 ,138,465 ,614,055 ,760,508	1,000 pounds. 24,960 28,150 30,869 44,053 62,436 67,583
	1882-1886 1887-1891 1892-1896 1897-1901 1902-1906 1907-1911 1912-1916		35, 30, 15, 6, 17, 24,	020 543 475 321 192 147 144	758 774 909 1,783 3,897 6,042		392 475 529 568 538 490 399		2,835 3,879 1,805 495 2,662 1,907 3,638	18 16 16 18 21 21 28	99, 871 56, 859 30, 808 35, 232 50, 914 15, 892 50, 775		40 50 70 97 102 180	2333333	,458,490 ,003,281 ,827,799 ,916,134 ,721,782 ,997,156 ,993,125	74,781 84,275 92,782 86,809 98,678 96,743 98,841
	1901	02	14, 17, 18, 19,	453 391 210 829 478	983 1,339 1,494 1,714 1,923		583 534 517 573 585		372 7,656 359 3,167 181	11 12 16 10	17, 200 57, 659 69, 656 54, 222 96, 484		70 90 87 109 100	3 3 3	,975,006 ,031,916 ,216,108 ,700,624 ,680,933	89,806 75,579 108,575 112,906 102,707
	1905. 1907. 1907. 1908. 1909.	59 55 52 62 93	18, 22	021 631 883 093 292	2,447 3,450 3,799 4,129 3,702		469 565 286 517 449		1,948 177 404 8,384 353	20 21 22 22 22	66, 548 99, 603 2,783 22, 900 25, 401		98 99 104 91 100	3,4	,979,331 ,391,840 ,371,997 ,189,421 ,094,546	93,622 86,368 94,150 114,917 85,626
1	1911 1912 1913 1914	74 69 74 50	33, 51,	838 828 927 410	4, 406 4, 837 5, 221 6, 218		630 400 508 455		219 13,735 327 3,646	20	08,775 00,063 22,104 00,195		118 114 154 216	3,4,4	,937,978 ,104,618 ,740,041 ,066,822	102,564 101,407 94,813 91,131
	1915	51 79 77 86	70, 85, 110, 130,	840 717 238 731	6,711 7,224 7,533 2,538		484 147 87 158		271 210 3,079 1,180	27	77, 191 34, 324 6, 049 66, 059		186 229 143 150	5, 4,	,420,982 ,633,162 ,332,746 ,903,327	96, 988 109, 866 103, 364 151, 315
	1918. 1919. 1920. 1921.	79 69 67 32	141, 120, 160, 78,	339 156 208 110	171 9,024 4,079 6,628		160 730 211 102		1,201 5,544 6,062 2,018	55 17 14	i8, 048 74, 596 12, 951 13, 893		152 145 181 116	5, 7, 8, 5,	,170,976 ,023,620 ,073,760 ,969,406	134, 418 80, 963 90, 247 76, 487

Table 518.—Imports of selected agricultural products, 1852-1921—Continued.

Year ending June 30—	Beeswax.	Onions.	Plums and prunes.	Raisins.	Currants.	Dates.	Figs.
Average 1887–1891 1892–1896 1897–1901 1902–1906 1907–1911 1912–1916	1,000 pounds 129 280 265 457	1,000 bushels. 628 924	1,000 pounds. 60,238 12,406 561 564	1,000 pounds 38,546 17,746 7,670 7,345	1,000 pounds 34,398 27,520	1,000 pounds. 14,914 15,654	1,000 pounds 9,781 10,117 8,920
1907–1911 1912–1916	846 1,406	1, 103 997	304	5, 283 2, 845	35, 457 35, 259 30, 350	25,649 26,059 29,922	14,335 19,548 16,564
1901	214 409 489 425 374	771 796 926 1,171 856	746 522 634 494 672	3,561 6,684 6,716 6,868 4,042	16,049 36,239 33,578 35,318 31,743	20,014 21,681 43,815 21,058 19,257	9,934 11,087 16,482 13,178 13,364
1906	588 917 672 765 972	873 1, 126 1, 275 575 1, 024	497 323 335 296	12, 415 3, 967 9, 132 5, 794 5, 043	37, 078 38, 393 38, 653 32, 452 33, 326	22,436 31,271 24,058 21,869 22,694	17,562 24,346 18,837 15,236 17,362
1911 1912 1918 1914	903 1,077 829 1,412	1,515 1,436 789 1,115		2,479 3,256 2,580 4,555	33, 440 33, 151 30, 844 32, 033	29,505 25,208 34,305 34,074	23, 460 18, 765 16, 838 19, 285
1915	1,565 2,146 2,686 1,827	829 816 1,758 1,313		2,809 1,024 1,850 844	30,351 25,373 10,477 5,168	24,949 31,075 25,485 5,573	20,780 7,153 16,480 10,473
1918 1919 1920 1921	1,558 2,384 4,143 2,493	261 741 1,819 1,976		100 1,567 46,039 17,015	5,091 14,852 55,832 57,037	10,721 36,921 32,347 48,504	11,775 25,359 31,437 38,706
	Hides an	d skins, o	ther than	Macaroni, vei mi-			
Year ending June 30—	Cattle.	Goat	Other than cattle and goat.	celli, and all similar prepara- tions	Lemons.	Oranges.	Walnuts.
Average: 1897-1901	1,000 pounds.	1,000 pounds. 68,053	1,000 pounds. 91,173	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
1902–1906 1907–1911 1912–1916	126,995 178,682 313,508	93,675 94,330 88,711	115,952 143,351 188,388	99,724 83,838	153, 161 153, 343 1 148, 528	41,105 12,344 19,941	30,981 34,275
1901 1902 1903 1904 1905	129,175 148,628 131,644 85,370 113,177	73,746 88,039 85,114 86,339 97,804	77,990 89,458 102,340 103,025 126,894	28,788 40,224 53,441	148,515 164,075 152,004 171,923 139,084	50, 333 52, 742 56, 872 35, 893 28, 881	12,363 23,671 21,684
1906. 1907. 1908. 1909.	156, 155	111,097 101,202 63,641 104,048 115,845	158,045 135,111 120,771 148,254 174,771	77,926 87,721 97,234 85,114 113,773	138,717 157,860 178,490 135,184 160,215	31, 134 21, 267 18, 397 8, 436 4, 676	24, 917 32, 598 28, 887 26, 158 33, 641
1911 1912 1913 1914	150, 128 251, 013 268, 042	86,914 95,341 96,250 84,759	137,850 191,415 207,904 196,348	114,779 108,231 106,501 126,129	134,969 145,639 151,416	7,672 7,629 12,253	33,619 37,214 26,662 37,196
1915 1916 1917 1918	334,341 434,178	66,547 100,657 105,640 66,933	137, 439 208, 835 207, 967 98, 084	56,542 21,790 3,473 670			33,446 36,859 38,725 23,289
Calendar year: 1918	221, 051 407, 282 275, 324	62,364 133,657	78,476 203,897	402 903			13,011 31,496

Table 519.—Exports and imports of selected forest products, 1852-1921.

[Compiled from reports of Foreign Commerce and Navigation of the United States. Where figures are lacking, either there were no exports or imports, or they were not separately classified for publication [

The second section of the second seco	Domestic exports.					Imports					
	Lun	ıber.						Lun	ıber		
Year ending June 30	Boards, deals, and planks. ¹	Staves.	Rosin.	Spirits of tur- pentine.	Tim- ber, hewn and sawed.	Cam- phor, crude.	Rubber gums, total.	Boards, deals, planks, and other sawed	1	Shellac.	Wood pulp
Average: 1851-1856 1857-1861	129 205	1,000 number.	552 664	1,369 2,735	1,000 M fect	214 361	1,000 pounds.	1,000 M jeet.			1,000 long tons
1862–1866 1867–1871 1872–1876 1877–1881	138 139 222 303		69 492 846	2,693 7,139	210 220	387 1,516	² 7, 390 12, 631 15, 611	565 418		631	
1882–1886. 1887–1891. 1892–1896. 1897–1901. 1902–1906. 1907–1911. 1912–1916.	532 616 957 212	51, 234 56, 182 65, 431	1,290 1,534 2,006 2,478 2,453 2,356 2,128	9,302 10,794 14,259 18,349 16,927 16,659 15,674	161 296 336 491 556 521 353	1,959 2,274 1,492 1,858 2,139 2,939 3,529	24, 481 33, 227 39, 672 52, 975 75, 909 121, 504 201, 759	578 617 661 566 727 900 1,016	\$8 184 772 867 1,045	5,086 5,848 8,839 11,614 19,046 21,470	37 43 47 121 319 517
1901 1902 1903 1904 1905	043	47, 363 46, 999 55, 879 47, 420 48, 286	2, 821 2, 536 2, 396 2, 585 2, 310	20, 241 19, 178 16, 379 17, 203 15, 895	590 477 570 604 533	2,176 1,831 2,472 2,820 1,904	64, 927 67, 790 69, 312 74, 328 87, 004	491 666 721 589 711	556 708 724 770 759	9,609 9,065 11,591 10,933 10,701	47 67 117 145 168
1906	1,344 1,624 1,548 1,358 1,684	57, 586 51, 120 61, 697 52, 583 49, 784	2,439 2,561 2,713 2,170 2,144	15, 981 15, 855 19, 533 17, 502 15, 588	595 640 522 419 491	1,669 3,138 2,814 1,990 3,007	81, 109 106, 748 85, 810 114, 599 154, 621	950 934 791 846 1,054	901 881 988 1,058 763	15,780 17,786 13,362 19,185 29,402	157 213 238 274 378
1911 1912 1913 1914	2, 032 2, 307 2, 550 2, 405	65, 726 64, 163 89, 006 77, 151	2,190 2,474 2,806 2,418	14, 818 19, 599 21, 094 18, 901	532 438 512 441	3,726 2,155 3,709 3,477	145,744 175,966 170,747 161,777	872 905 1,091 929	643 515 560 895	15, 495 18, 746 21, 912 16, 720	492 478 503 508
1915 1916 1917 1918 Calendar year:	1,177 1,042 1,068	39, 297 57, 538 61, 469 63, 207	1,372 1,571 1,639 1,071	9, 464 9, 310 8, 842 5, 095	174 201 184 106	3,729 4,574 6,885 3,638	196, 122 304, 183 364, 914 414, 984	939 1,218 1,175 1,283	1,487 1,769 1,921 1,878	24, 153 25, 818 32, 540 22, 913	588 507 699 504
1918	1,311 1,551	53,374 81,658 82,584 34,691	779 1,210 1,164 1,002	3,717 10,672 9,458 9,268	75 183 171 135	3,474 2,694 3,833 1,079	340,023 565,931 590,464 423,349	1,209 1,149 1,351 839	1,798 1,987 1,964 2,164	18,664 24,426 28,587 27,841	516 568 809 622

¹ Including "Joists and scantling" prior to 1884. ² Includes "Gutta-percha" only for 1867.

Table 520.—Trade of the United States with Havaii and Porto Rico in selected domestic farm products, 1919-1921

[These shipments are not included in the domestic exports from or imports into the United States.] SHIPMENTS FROM THE UNITED STATES.

		Hawan.		Porto Rico.							
Article.		Year ending December 31—									
	1919	1920	1921	1919	1920	1921					
Beans and dried peas, bushels. Dairy products. pounds. Rice. do. Sugar, refined. do. Tobacco, unmanufactured pounds.		6, 045, 552 17, 192, 467	6, 745, 905 32, 803, 035	5, 392, 805 163, 949, 679	9, 272, 439 153, 820, 633 3, 862, 458	7, 168, 816 173, 650, 845 6, 842, 370					
SI	HIPMENTS	TO THE UI	NITED STAT	res.							
Coffee pounds. Grapefruit boxes. Molasses and sirup gallons. Oranges boxes. Sugar, raw pounds. Tobacco, unmanufactured pounds.		12, 126, 132	6, 789, 942 1, 082, 256, 326	401, 174 15, 554, 493 355, 226 728, 391, 059	112, 644 20, 770, 640 256, 387	661, 582 16, 833, 247 222, 591 938, 592, 051					

 $\begin{array}{lll} {\tt Table \ 521.--} Destination \ of \ principal \ farm \ products \ exported \ from \ the \ United \ States, \\ 1919-1921 \end{array}$

		Quantity.		Per	cent of t	otal.	
Article and country to which consigned.	Yes	r ending Dec.	31—	Year ending Dec. 31—			
	1919	1920	1921	1919	1920	1921	
ANIMAL MATTER Cattle: Belgium Canada Cuba. Germany Mexico. United Kingdom Other countries Total	23, 923	100	Number 2, 013 7, 823 15, 182 1, 485 138, 230 31, 324 467	P. ct. 13.0 16 0 20.0 34.2 16.8	P. ct. 34.3 5.4 24.3 32.5 1 3.4	P. ct. 1. 0 4. 0 7. 7 .8 70. 3 15. 9 .3	
Horses: Belgium. Canada Cuba. Germany Mexice. Spain United Kingdom. Other countries		103 7, 062 2, 200 183 3, 285 3, 26 1, 144	72 3,785 939 579 10,330 548 346 722	5 4 50. 0 3. 7 2 27. 6 12. 6	.7 .49 2 15 3 1.3 22.9 2.5 8.1	21. 9 5. 4 3. 3 59. 6 3. 2 2. 0 4. 2	
Butter Belgium British Guana Canada Central American States and British Honduras Chana	Pounds. 2, 856, 293 197, 588 274, 893 666, 713	Pounds. 5, 214, 778 505, 574 855, 150 861, 781	Pounds. 314,340 1,907,184 1,034,089	8 3 .6 .8 1.9	29.8 2.9 4.9	3. 9 23. 8 12. 9	

 $\begin{array}{lll} \textbf{Table 521--Destination of principal farm products exported from the United States,} \\ & 1919-1921-- \textbf{Continued.} \end{array}$

		Quantity.		Per	cent of t	otal.
Article and country to which consigned.	Yea	r ending Dec.	31—	Year e	nding D	ec. 31—
	1919	1920	1921	1919	1920	1921
ANIMAL MATTER—continued. Butter—Continued. United Kingdom. Venezuela. West Indies and Bermuda. Other countries	Pounds. 21, 817, 613 35, 563 2, 249, 201 5, 683, 038	Pounds. 3, 598, 845 25, 170 2, 878, 808 2, 049, 891	Pounds 65, 168 9, 655 2, 784, 961 321, 123	P. ct. 63 1 .1 6.5 16.5	P. ct. 22 3 .1 16.5 11 7	P. ct. .8 .1 34.8 4.0
Total	34, 556, 485	17, 487, 735	8, 014, 737	100 0	100 0	100 0
Beef, canned: Canada Danzig and Poland Germany Mexico United Kingdom Other countries	352, 721 2, 128, 219 114, 903 13, 947, 951 37, 323, 443	358, 151 16, 722, 800 144, 133 162, 001 1, 705, 554 4, 583, 271	258, 191 98 802, 875 281, 612 3, 711, 787 1, 022, 685	.7 4 0 2 25 9 60 2	1. 5 70 4 6 . 7 7. 6 19 2	4.3 (1) 13.2 4 6 61.1 16 8
Total	53, 867, 327	23, 766, 000	6, 077, 248	100 0	100, 0	100.0
Beef, fresh: Belgmm Bermuda Canada Cuba. Germany Italy. Mexico. Netherlands Panama United Kingdom Other countries	23, 469, 602 823, 486 2, 621, 011 259, 780 31, 083, 572 21, 375, 475 407, 181 13, 708, 452 51, 950 73, 073, 602 7, 555, 888	35, 205, 492 1 185, 243 2, 330, 963 450, 025 26, 159, 680 211, 447 811, 877 15, 922, 196 86, 537 5, 609, 488 1, 586, 200	4, 897, 473 1, 165, 789 228, 624 316, 554 431, 665 660, 354 14, 615 317, 522 2, 129, 119 149, 292	13. 5 . 5 1 5 1 7. 8 12. 3 . 2 7. 9 (¹) 41. 9 4. 3	39 3 1 3 2 6 . 5 29 2 . 2 . 17 8 . 1 6. 4 1. 7	47. 4 11 3 2 2 3. 3 4. 2 6 4 .1 3. 1 20 6 i. 4
Total	174, 426, 999	89, 649, 148	10, 341, 007	100 0	100.0	100.0
Beef, pickled and other cured Canada. Dutch Gurana. Germany Netherlands. Newfoundland and Labrador. Norway United Kingdom. West Indies and Bermuda. Other countries.	1, 373, 553 404, 200 2, 567, 512 2, 323, 748 5, 676, 761 4, 312, 960 5, 569, 743 1, 404, 620 19, 169, 507	2, 016, 022 1, 227, 584 1, 604, 050 1, 700, 784 5, 596, 298 876, 505 4, 210, 631 3, 764, 361 4, 774, 941	1, 357, 975 1, 135, 038 904, 562 223, 753 6, 407, 860 3, 293, 172 3, 950, 930 4, 121, 879 3, 195, 413	3. 2 . 9 6 0 5. 4 13. 3 10 1 13 0 3. 3 41. 8	7.8 4.8 6.2 6.6 21.7 3.4 16.3 14.6	5 5 4 6 3 7 . 9 26 0 13. 4 16. 1 16. 8 13. 0
Total	42, 804, 721	25, 771, 176	21, 590, 582	100 0	100 0	100.0
Oleo oil: Belgium Donmark France Germany Greece Notherlands Nowfoundland and Labrador Norway Sweden Turkey in Europe United Kingdom Other countries	8, 461, 473 8, 025, 918 4, 589, 200 2, 126, 704 3, 479, 870 4, 811, 612 1, 890, 493 8, 656, 192 3, 494, 255 2, 635, 801 20, 791, 549 6, 621, 998	1, 030, 628 1, 531, 297 437, 918 3, 428, 958 2, 766, 173 20, 107, 202 1, 475, 546 10, 566, 827 3, 320, 805 6, 801, 7593, 177 5, 368, 200	1, 512, 145 3, 172, 458 5, 345, 185 20, 700, 512 2, 349, 273 46, 607, 711 1, 626, 440 18, 040, 180 3, 783, 541 9, 235, 697 11, 543, 163 3, 998, 408	11. 2 10. 6 6 1 2. 8 4. 6 6 4 2. 5 11. 5 4. 6 3. 5 27 5	1. 4 2. 1 . 6 4 6 3. 6 27. 0 2 0 14 2 4. 5 9. 1 23. 7 7. 2	1. 2 2. 5 4. 2 16. 2 1 8 36. 4 1. 3 14. 1 3. 0 7. 2 9. 0 3. 1
. Total	75, 585, 164	74, 368, 344	127, 977, 713	100.0	100.0	100.0
Lard compounds: Cuba	8,611,137 1,228,943 1,603,608 4,620,050 2,703,928 2,100,664 62,739,201 41,355,419	6, 918, 040 1, 746, 998 2, 126, 471 6, 217, 160 1, 484, 598 180, 258 2, 064, 513 4, 008, 562 7, 304, 858	8, 115, 534 5, 029, 116 2, 412, 364 10, 212, 860 1, 671, 376 3, 816, 530 2, 366, 433 7, 375, 760 7, 203, 590	6. 9 1. 0 1. 3 3 7 2. 1 1 7 50. 2 33. 1	21.6 5.5 6.6 19.4 4.6 6.4 12.5 22.8	10. 8 10. 4 5. 0 21 2 3. 5 7. 9 4. 9 15. 3 15. 0
Total	194 000 050	20 051 450	10.000.00			100.0

 $\begin{array}{lll} {\tt Table~521.--} Destination~of~principal~farm~products~exported~from~the~United~States,} \\ & 1919-1921.-- {\tt Continued.} \end{array}$

		Quantity.		Per	cent of t	otal.	
Article and country to which consigned.	Yea	ar ending Dec.	31—	Year ending Dec. 31—			
	1919	1920	1921	1919	1920	1921	
ANIMAL MATTER—continued.							
Bacon: Belgium Canada. Cuba. Denmatk Finland France. Germany Gibraltar Italy Netherlands Norway Poland and Danzig. Spain Sweden United Kingdom Other countries	532,677 51,891,124 507,184,219	Pounds. 35, 086, 345 12, 473, 768 21, 190, 518 6, 642, 344 5582, 125 25, 040, 866 76, 035, 297 777, 175 18, 844, 911 61, 759, 267 6, 760, 290 569, 924 3, 044, 951 17, 410, 673 344, 555, 982	Pounds. 20, 772, 504 13, 980, 980 27, 241, 037 4, 609 561 5, 112, 650 12, 154, 685 54, 133, 512 1, 079, 789 9, 107, 503 28, 830, 301 11, 109, 890 4, 493, 211 2, 552, 729 7, 261, 939 209, 551, 983 3, 362, 909	P. ct 7 6 9 1.3 3 3 1 1 15.0 9.4 4.5 4.0 9.4 42.6	P. ct. 55 5 2 0 3 3 3 1 1 1 3 9 11 9 1 1 1 2 7 5 4 1 0	P. ct. 5.0 3.4 6.6 6.1 1.2 2.9 13.0 2.2 6.9 7.1 1.7 50.5	
Total	13, 195, 087	5, 901, 136 636, 675, 572	3, 362, 909 415, 356, 152	1.1	100 0	100.0	
Hams and shoulders, cured Belgium Canada Cuba. France Italy Netherlands Norway. United Kingdom Other countries	30, 054, 740 7, 457, 307 9, 863, 103 103, 201, 727 65, 245, 793 8, 569, 661 4, 358, 920 338, 028, 382 30, 016, 030	6, 596, 959 6, 354, 128 15, 612, 342 26, 209, 164 3, 236, 225 1, 589, 470 247, 502 116, 256, 553 9, 144, 412	7, 567, 604 9, 222, 358 10, 192, 526 1, 398, 164 26, 563 1, 902, 602 1, 764, 723 194, 235, 024 6, 014, 203	5.0 1.3 1.7 17.3 10.9 1.4 -7 56.6 5.1	3.6 3.4 8.4 14.2 1.7 .9 .1 62.8 4.9	3. 3 4. 0 4. 4 . 6 (1) . 83. 6 2. 6	
Total	596, 795, 663	185, 246, 755	232, 323, 767	100.0	100 0	100.0	
Lard: Belgium Canada Cuba. Denmark Dommican Republic. Ecuador Finland France. Germany Hatt Italy Mexico. Netherlands. Norway Peru. Poland and Danzig. Sweden Switzerland United Kingdom Other countries	155, 802, 228 5, 090, 459 44, 766, 460 33, 505, 333 822, 086 2, 407, 180 96, 296, 935 39, 495, 017 11, 138, 333 2, 463, 197 7, 134, 448 68, 596, 924 1, 257, 190 944, 742 24, 483, 937 32, 247, 743 219, 306, 542 22, 371, 354	55, 021, 415 12, 730, 298 65, 720, 975 6, 329, 275 2, 311, 519 2, 897, 992 48, 755, 791 127, 836, 008 1, 950, 140 23, 153, 676 17, 302, 006 91, 297, 867 1, 018, 108 2, 413, 735 4, 482, 513 5, 000, 274 1, 912, 574 128, 771, 843 12, 881, 420	51, 564, 655 12, 706, 087 72, 310, 640 9, 506, 063 3, 333, 100 2, 951, 759 2, 773, 306 40, 102, 085 278, 044, 966 1, 312, 275 11, 744, 562 43, 437, 727 76, 964, 941 1, 578, 772 3, 323, 021 6, 340, 887 5, 591, 622 4, 614, 346 232, 204, 210 8, 510, 545	20 5 7 7 5.9 4 4 4 12.7 7 5.2 2 2.3 3 9 9.0 0 .2 1 1 3 2 4.2 28.8 2.9	9.0 2.1 10.7 1.0 4 4.5 .1 8.0 20.9 .3 3.8 2.8 14.9 .7 .8 .7 .8 .7 .8 .7 .8 .7 .8 .7 .8 .7 .8 .7 .8 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9	5. 9 1. 5. 9 1. 1. 1 1. 1 1. 3 1. 3 3. 3 4. 6 3. 2 1. 4 5. 0 8. 9 2. 2 4. 5 5. 0 2. 2 2. 2 2. 2 2. 2 1. 1	
Total	760, 901, 611	612, 249, 951	868, 941, 569	100 0	100.0	100.0	
Lard, neutral: Denmark Germany Netherlands Norway United Kingdom Other countries	5, 445, 681 950, 837 9, 313, 883 1, 653, 325 2, 000, 074 3, 593, 337	497, 480 118, 584 2, 998, 410 1, 885, 917 14, 255, 712 3, 481, 968	1, 268, 352 2, 461, 822 8, 524, 085 3, 891, 235 4, 808, 132 2, 997, 163	23 7 4.1 40 6 7.2 8.7 15 7	2. 1 . 5 12. 9 8. 1 61. 3 15 1	5. 8 10. 3 35. 6 16 2 20. 1 12 5	
Total	22, 957, 137	23, 238, 071	23, 950, 789	100 0	100.0	100 0	

 $^{^{\}rm 1}$ Less than 0.05 of 1 per cent.

35143°-- үвк 1922-----62

Table 521.—Destination of principal farm products exported from the United States, 1919-1921.—Continued.

		Quantity.		Per	cent of t	otal
Article and country to which consigned.	Yea	r ending Dec.	31—	Year e	nding D	ec. 31—
	1919	1920	1921	1919	1920	1921
ANIMAL MATTER—continued. Pork, piciled: British Guiana. Canada. Cuba. Germany. Harti. Newfoundland and Labrador. Norway. Panama. United Kingdom. Other countries.	Pounds. 205, 700 8, 372, 796 6, 560, 984 369, 444 461, 678 4, 833, 214 3, 193, 955 1, 194, 683 3, 378, 871 6, 609, 550	Pounds 901, 185 15, 480, 971 4, 775, 388 558, 499 4, 848, 954 616, 062 240, 872 1, 902, 869 8, 395, 495	Pounds. 614, 975 11, 753, 367 1, 375, 787 1, 646, 761 1, 071, 404 4, 577, 7400 1, 087, 782 235, 256 4, 031, 010 6, 448, 865	P. ct. .6 24.5 19.2 1.1 1.4 14.2 9.4 .4 9.9 19.3	P. ct. 2.3 40 0 12.3 1.4 2.5 12.5 1.6 4.9 21.9	P. ct 1. 9 35. 3 4. 2 5. 0 3. 3 13. 9 3. 3 17 12. 3 19. 6
Totalvegetable matter.	34, 113, 875	38, 708, 841	32, 842, 607	100 0	100 6	100.0
Cotton: Austria-Hungary Belgium Canada France Germany Italy Japan Mexico Netherlands Spain Sweden United Kingdom Other countries	48, 609, 352 81, 894, 621 83, 405, 725 398, 168, 968 77, 914, 351 280, 849, 977 440, 520, 341 345, 852 105, 261, 030 126, 076, 028 43, 099, 170 1, 619, 088, 787 62, 443, 777	1 2, 880, 580 100, 905, 512 110, 328, 914 334, 460, 950 376, 071, 288 282, 851, 308 335, 934, 543 23, 970, 192 44, 457, 873 145, 027, 632 44, 055, 632 1, 303, 896, 422 74, 472, 513	1 1, 473, 192 96, 883, 020 88, 360, 293 334, 228, 703 783, 325, 674 278, 826, 056 560, 611, 786 13, 798, 801 130, 601, 515 23, 353, 367 847, 168, 682 123, 838, 629	1.5 2.4 2.5 11.8 2.3 8.3 13.1 (2) 3.1 3.7 1.3 48.1 1.9	3.1 3.5 10.5 11.8 8.9 10.6 1.4 41.0 2.3	2 9 2.6 10.0 23.5 8 3 16.8 1.4 1.4 4 2 .7 25.4 3.7
Total		3, 179, 313, 336	3, 339, 113, 489	100.0	100.0	100, 0
Apples, dried— Belgium Demmark France Gernany Netherlands Sweden United Kingdom Other countries	7,309,782 5,748,424 3,994,234	446,750 893,514 700,671 43,258 1,203,225 1,479,766 2,483,708 1,496,914	1, 158, 595 1, 239, 431 1, 628, 554 3, 512, 391 7, 454, 042 1, 573, 454 2, 366, 509 1, 029, 330	8.1 14.2 6.6 (2) 2.0 29.6 23.3 16.2	5. 1 10. 1 7. 9 .5 14. 5 16. 8 28. 1 17. 0	5. 8 6. 2 8. 2 17. 6 37. 3 7. 9 11. 9 5. 1
Total	24, 704, 359	8,827,806	19, 962, 306	100.0	100.0	100.0
Apples, fresh— Camada. Germany United Kingdom. Other countries.	Barrels. 158,859 8 1,209,855 343,645	Barrels. 274, 358 50 1, 250, 033 273, 270	Barrels. 166, 410 1, 569 1, 498, 839 209, 406	9. 3 (2) 70. 7 20. 0	15.3 (2) 69.5 15.2	8. 6 (2) 77. 4 14. 0
Total	1,712,367	1,797,711	1,936,224	100 0	100 0	100 0
Apricots, dried— Belgium Camada Denmark France Germany Netherlands Norway Sweden United Kingdom Other countries	724, 844 5,979, 190 8,328, 363 30,473 1,140, 230 3,545, 690	Pounds. 344, 828 783, 968 954, 522 1, 821, 902 28, 465 150, 260 164, 443 453, 406 4, 256, 638 924, 564	Pounds. 1,055,243 750,581 1,665,090 4,214,366 3,512,321 2,423,949 1,004,228 1,013,660 5,048,007 887,704	5 2 1 9 16. 1 22. 4 3. 1 9. 5 14. 6 20. 6 6. 5	3.5 7.9 9.7 18.4 .3 1.5 1.7 4.6 43.1 9.3	4. 9 3. 5 7 7 19. 5 16. 3 11. 2 4 7 4 7 23. 4 4. 1
Total	37, 143, 824	9, 881, 256	21, 575, 149	100.0	100.0	100.0
Oranges— Canada Other countries	Boxes. 1,633,421 144,047	Boxes. 1,417,001 100,993	Boxes. 2,023,833 197,242	91 9 8. 1	93. 3 6. 7	9i. 1 8. 9
Total	1,777,468	1,517,994		100 0	100.0	100.0

Table 521.—Destination of principal farm products exported from the United States, 1919-1921—Continued.

		Quantity.		Per	ent of to	otal.
Article and country to which consigned.	Yea	r ending Dec.	31—	Year ei	ding De	c. 31—
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued						
Fruits—Continued. Prunes— Belgium. Canada. Denmaik. France. Germany. Netherlands. New Zealand. Sweden. United Kingdom. Other countires.	Pounds. 3, 172, 934 14, 519, 219 12, 206, 192 10, 498, 370 15, 758 567, 668 365, 925 15, 552, 738 29, 445, 779 21, 863, 674	Pounds 2, 095, 419 14, 903, 218 1, 456, 849 16, 184, 922 323, 156 2, 271, 370 749, 682 1, 921, 919 27, 825, 591 7, 403, 653	Pounds 4, 034, 697 11, 151, 370 3, 752, 743 21, 248, 291 25, 988, 028 3, 981, 144 1, 033, 545 5, 948, 503 33, 337, 854 4, 457, 565	P. ct 2.9 13.4 11.3 97 (1) .5 3 14.4 27 2 20 3	P. cf 2.8 19 8 1.9 21.5 .4 3.0 10.0 2.6 37.0	P. ct 3 4 9.5 3 2 18 0 24 6 3 4 5 0 28 3 7
Total	108, 208, 257	75, 138, 779	117, 933, 740	100 0	100.0	100 0
Fruits, canned— United Kingdom Other countries	Dallars. 34, 359, 305 7, 116, 317	Dollars. 10, 915, 959 10, 598, 314	Dollars 10, 586, 182 3, 795, 239	82. 8 17 2	50.7 49 3	73 6 26 4
Total	41, 475, 622	21, 514, 273	14, 381, 421	100 0	100 0	100 0
Ghucose and grape sugar Argentina. British Oceania France. Germany Italy Netherlands. United Kingdom. Other countries	Pounds. 6, 341, 204 1, 246, 848 52, 042, 971 5, 909, 980 2, 700, 980 159, 033, 298 28, 343, 328	Pounds. 2, 837, 928 1, 869, 237 25, 420 818, 922 9, 049, 194 2, 300, 060 113, 643, 769 31, 951, 638	Pounds 3, 520, 163 2, 591, 163 2, 591, 167 7, 157, 160 35, 076, 171 1, 436, 762 12, 033, 811 135, 541, 959 48, 415, 041	2. 5 20. 4 2. 3 1. 1 62 2 11. 0	1.7 1.2 (1) .3 5 6 1.4 69.9 19.9	1 4 1 1 2 9 14 3 .6 4 9 55 1 19 7
Total	255, 617, 709	162, 496, 168	245, 772, 484	100.0	100.0	100.0
Grain and grain products Corn— Belgium Canada Cuba. 5 Denmark Germany Mexico Notherlands. United Kingdom Other countries	Bushels. 1, 009, 969 6, 542, 025 1, 964, 540 334, 711 133, 887 100, 168 948, 493 158, 740	Bushels. 71, 787 10, 064, 668 1, 893, 793 173, 357 1, 323, 770 770, 814 423, 604 2, 706, 805 332, 822	Bushcls. 1, 559, 756 58, 582, 806 2, 308, 746 5, 965, 298 12, 729, 289 11, 871, 546 17, 843, 46 15, 811, 050 2, 302, 550	9 0 58.4 17.6 3.0 1 2 .9 8.5	.4 56.7 10.7 1.0 7.5 4.3 2.4 15.2	1. 2 45 4 1. 8 4. 6 9. 9 9. 2 13. 8 12 3 1. 8
Total	11, 192, 533	17, 761, 420	128, 974, 505	100.0	100 0	100 0
Wheat — Belgium Canadia Frunce Germany Gibraltur Girecce Italy Japan Mexico. Notherlands Spain United Kingdon Other countries		20, 665, 729 14, 811, 672 26, 444, 984 8, 246, 213 4, 181, 694 1, 415, 360 32, 110, 050 10, 141 1299, 211 11, 912, 662 7, 099, 430 77, 368, 545 13, 721, 643	22, 469, 757 25, 990, 974 8, 988, 242 36, 931, 189 4, 565, 276 4, 116, 067 60, 842, 457 8, 224, 764 2, 661, 109 25, 228, 449 4, 346, 426 63, 672, 052 12, 020, 839	16. 5 1 0 18. 6 1. 0 25. 8 1. 3 1. 3 30. 3 5. 2	9.5 6.8 12.1 3.9 14.7 (1) 5.5 3.3 35.4 6.3	8. 0 9. 3 3. 2 13. 2 1. 6 1. 5 21. 7 2. 9 1. 0 1. 6 22. 7 4. 3
Total	148, 086, 470	218, 287, 334	280, 057, 601	100.0	100.0	100 0

¹ Less than 0.05 of 1 per cent.

		Quantity.		Per	cent of t	otal
Article and country to which consigned.	Yea	r ending Dec.	31—	Year e	nding D	ec. 31—
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued.						
Grain and grain products—Con. Wheat flour— Brazil British West Indies (in-	Barrels. 279,564	Barrels. 623, 198	Barrels. 260,718	P. ct.	P. ci. 3 2	P. ct. 1.6
cluding Bermuda). Canada. Cuba. Finland. Germany Haiti. Hongkong. Italy. Netherlands	222, 288 7, 316 1, 408, 698 41, 729 42, 324 268, 243 10, 597 3, 006, 825 1, 082, 207 45, 715 54, 904	355,636 25,250 1,389,990 369,165 1,077,675 361,321 192,936 1,410,243 730,943 160,935	278, 258 72, 521 1, 065, 581 444, 730 1, 725, 877 139, 290 737, 727 56, 122 1, 204, 137 413, 039 254, 755	10 (1) 5 3 2 2 1.0 (1) 11.4 4.1 2	1 8 .1 7 0 1.9 5.4 1 8 1.0 7.1 3 7 .8	1.7 63 2.6 103 .8 4.4 .3 722.5
Norway Philippine Islands United Kingdom Other countries	54,904 10,440,148 9,539,323	143, 469 3, 435, 239 9, 577, 992	254, 755 3,997,691 6,150,359	39 5 36. 0	17 3 48 2	2. 5 1. 5 23. 8 36. 6
Total	26, 449, 881	19,853,992	16,800,805	100 0	100 0	100 0
Hops: British Oceania Canada United Kingdom Other countries	Pounds. 214,487 2,493,098 12,523,653 5,536,266	Pounds. 823,665 1,968,821 21,421,599 1,409,970	Pounds. 459,238 2,960,359 13,375,667 1,664,336	1.2 12 0 60.2 26.6	3 2 7.7 83.6 5.5	2.5 16.0 72.5 9.0
Total	20,797,504	25,624,055	18, 459, 600	100.0	100 0	100.0
Oil cake and oil-cake meal: Cottonseed— Belgnum Penmark Germany Netherlands Norway. Sweden United Kingdom Other countries	7,824,573 200,605,481 1,826,445 35,412,218 103,780,415 249,540,669 29,143,365	1,138,800 247,767,183 20,118,977 9,616,175 41,266,275 6,080,536 14,058,036	6,067,677 296,920,633 103,923,321 901,851 25,853,354 12,234,562 120,206,903 19,480,691	1. 2 31. 9 .3 5 6 16. 5 39. 7 4. 8	.3 72.9 5.9 2.8 12.1 1.8 4.2	1. 0 50. 7 17. 8 . 2 4 4 2 1 20. 5 3. 3
Total	628, 133, 166	340,045,982	585, 588, 992	100 0	100.0	100 0
Linseed or flaxseed— Belgnum. Denmark France. Netherlands. United Kingdom. Other countries.	80, 622, 811 46, 023, 678 263, 503 104, 614, 268 84, 678, 808 37, 548, 415 353, 751, 483	25, 904, 744 42, 135, 337 98, 188, 316 42, 425, 875 26, 970, 705 235, 624, 977	120, 571, 354 4, 945, 889 336, 577, 625 58, 250, 191 41, 921, 978 562, 267, 040	22. 8 13 0 .1 29. 6 23 9 10 6	11 0 17.9 41.7 18.0 11.4	21. 4 .9 59. 9 10 4 7 4 100 0
Total	300, 101, 400	200,024,511	302,207,040	100.0	100.0	100 0
Oils, vegetable: Cottonseed— Argentina. Austria-Hungary. Belgium Canada. Chile. Cuba. Denmark France. Germany Italy. Mexico. Netherlands. Norway. Rumania Sweden. Turkey, European United Kingdom. Uruguay. Other countries.	231, 314 1, 613, 034 39, 662, 192 491, 621 5, 102, 662 7, 352, 315 7, 211, 543 9, 551, 748 495, 749 15, 626, 944 4, 255, 020 13, 112, 629 1, 274, 043 37, 814, 421 63, 450 23, 115, 665	2, 734, 813 21, 940, 019 3, 161, 251 45, 053, 545 1, 143, 985 4, 358, 816 4, 088, 712 8, 720, 86 3, 257, 311 22, 976, 091 2, 802, 789 34, 622, 804 13, 530, 487 562, 750 1, 077, 366 6, 156, 506 12, 917, 081 2, 058, 925 13, 589, 735	2,228,772 1,481,473 45,029,589 602,890 3,914,594 12,741,010 8,781,490 6,877,311 92,119,927 12,626,846 2,088,504 1,791,186 2,628,604 15,530,494 2,063,523 13,395,859	.1 .8 20.5 .3 2.6 3.8 3.7 (1) 4.9 .3 15.7 8.1 (1) 6.8 .7 19.6 (1)	1.5 1.1 1.7 24.4 2.6 2.2 4.7 1.8 12.4 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.7 1.7 1.3	.9 .68 17.82 1.6.23 1.5.05 2.92 2.77 36.50 1.02 1.02 5.33

 $\begin{array}{lll} \textbf{TABLE 521.--} \textit{Destination of principal farm products exported from the United States,} \\ & 1919-1921--- \text{Continued.} \end{array}$

		Quantity.		Per e	ent of to	tal.
Article and country to which consigned.	Year	r ending Dec. 3	1—	Year en	ding Dec	2. 31—
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued						
Tobacco, leaf, stem, and trimmings' Belgium British Africa British Oceania Canada China France Frence Frence French Africa Germany Italy Japan Netherlands Spain Swedon Switzerland United Kingdom Other countries	Pounds. 51,031,229 14,287,892 12,996,852 19,855,703 14,558,402 81,739,541 8,914,872 4,893,832 41,623,883 4,230,513 68,584,267 24,291,993 13,757,783 14,443,161 338,872,440 60,595,767	Pounds. 29, 106, 072 12, 780, 858 18, 931, 000 16, 683, 784 18, 224, 923 60, 396, 643 4, 368, 751 18, 442, 558 44, 187, 828 29, 143, 130 3, 248, 403 14, 551, 474 3, 719, 659 162, 768, 974 36, 215, 547	Pounds. 24, 517, 081 4, 482, 084 23, 948, 242 10, 112, 993 19, 388, 289 52, 972, 640 31, 588, 323 50, 589, 889 1, 511, 359 26, 789, 806 6, 148, 932 3, 021, 308 21, 5027, 232 30, 347, 579	P. ct. 6 6 6 1.87 2 6 6 1.97 10.5 1 . 6 6 5.65 8.8 1 1.9 43.6 7 9	P. ct. 6.1 2.7 3.9 3.5 3.8 12.6 .9 3.8 9.2 1.5 6.1 .7 3.0 8 33.9 7.5	P. ct. 4.7 4.7 9.9 4.5 3.1 3.7 10.1 6.0 9.7 3.1 2.7 1.26 41.1
Total	776, 678, 135	479,900,032	522,756,026	100 0	100.0	100.0
FOREST PRODUCTS						
Naval stores: Rosin— Argentina. Austria-Hungary Bolgium Brazil Canada. Gei many. Italy Netherlands. Russia, European United Kingdom Other countries.	Barrels. 116,708 2,989 14,023 154,513 71,316 98 18,470 24,554 4,55 504,459 301,822	Barrels. 136,345 2179 31,065 146,965 102,633 31,310 32,797 11,463	Barrels 158, 330 26, 581 98, 843 70, 413 137, 868 18, 668 14, 383 40 212, 692 263, 724	9.6 .2 1.2 12.8 5.9 (1) 1.5 20 (1) 41 7 25.1	11. 7 (¹) 2. 7 12. 6 8. 8 2. 7 2. 8 1. 0	15. 8 2. 7 9. 9 7. 0 13. 8 1. 9 1. 4 (1) 21. 2 26. 3
Total	1,209,627	1,164,328	1,001,542	100.0	100.0	100.0
Turpentine spirits of— Argentina. Belgium British Oceania. Canada. Germany. Netherlands. United Kingdom. Other countries.	Gallons 528,391 304,811 137,611 969,776 10,716 673,653 6,220,048 1,827,096	Gallons. 636,682 293,337 780,368 864,297 71,590 459,330 5,238,621 1,114,198	Gallons 273, 305 806, 528 384, 435 952, 456 1, 032, 746 863, 436 4, 423, 954 531, 099	9.1	6.7 3.1 8.3 9.1 .8 4.9 55.4 11.7	3. 0 8. 7 4. 2 10. 3 11. 1 9. 3 47. 7
Total	10,672,102	9,458,423	9, 267, 959	100.0	100.0	100.0
Lumber: Fir— Australia. Canada Chile. China Japan Mexico. New Zealand Panama Peru		M feet. 72,144 10,151 23,088 88,567 63,165 8,101 5,055 8,372 57,086 41,032 74,462	M feet. 32,364 3,220 4,575 94,957 244,556 7,094 2,689 187 44,788 4,477 16,326	16. 5 9. 2 2. 6 1. 3 6. 1	16. 0 2. 2 5. 1 19. 6 14. 0 1. 7 1. 1 1. 8 12. 7 9. 1 16 7	7. 1 20. 2 53. 1 (1) 9. 3
United KingdomOther countries	48,363	14,402	10,020			1

¹ Less than 0.05 of 1 per cent.

Table 521.—Destination of principal farm products erported from the United States, 1919-1921.—Continued.

Argentina. Canada Prance. United Kingdom Other countries Total Pine, yellow, long leaf— Argentina. Brazil Canada Cuba France. Italy. Mexico. Panama Spain United Kingdom Uruguay Other countries Total Railroad ties: Canada Cuba. France. Honduros.	Yes 1919 M feet. 13,105 42,799 2,520 70,915 28,508 157,937 73,978 1,024 1,106 154,843 9,408 2,621 34,896 7,797 66,108 16,394 62,220	M feet 4,540 42,487 33,615 24,114 105,141 . 92,596 9,902 9,733 254,959 2,129 2,019 73,865 10,511 18,971 43,589 18,956	M feet. 6,058 23,121 236 8,900 68,600 103,982 7,4 1,707 59,870 3,278 7,959 111,355 6,195 8,267 37,861	P. ct. 8 3 27.1 1.16 44.9 18.1 100 0 16.9 .2 .3 35.4 2.1 6 8 0 1.7 1.8	P. ct. 4 3 40.4 32 0 22.9 100.0 14.5 1.6 .1 40.0 .3 3.1.6 1.6 3.0	P. ct 5. 8 33.7 3 44 2 13.0 100 0 24.0 (1) 4 13.8 1 25 7 1.4 1.9 9
Lumber—Continued. Oak— Argentina. Canada France. United Kingdom Other countries Total Pine, yellow, long leaf— Argentina. Brazil Canada Cuba France. Italy Mexico. Panama Spain United Kingdom Unuguay. Other countries Total Railroad tes: Canada Cuba. France. Honduros.	M feet. 13,105 42,799 2,520 70,915 28,508 157,937 73,978 1,024 1,106 154,843 9,408 2,621 34,896 7,797 66,108	M feet 4, 540 42, 487 385 33, 615 24, 114 105, 141	M feet. 6,058 23,124 236 30,282 8,900 68,600 103,982 74 1,707 59,870 3,278 7,959 111,355 6,195 8,267	P. ct. 8 3 27.1 1.6 44.9 18.1 100 0 16.9 2.3 35.4 2.1 68 0 1.7	P. ct. 4 3 40.4 32 09 100.0 14.5 1.6 .1 40.0 .3 11.6	P. ct
Lumber—Continued. Oak— Argentina. Canada France. United Kingdom Other countries Total Pine, yellow, long leaf— Argentina. Brazil Canada Cuba France. Italy Mexico. Panama Spain United Kingdom Unuguay. Other countries Total Railroad tes: Canada Cuba. France. Honduros.	13, 105 42, 799 2, 520 70, 915 28, 598 157, 937 73, 978 1, 024 1, 106 154, 843 9, 408 2, 621 34, 896 7, 797 66, 108 16, 394 16, 394	4,540 42,487 33,615 24,114 105,141 	6,058 23,124 236 30,282 8,900 68,600 103,982 74 1,707 59,870 3,278 7,959 111,355 6,195 8,267	8 3 27.1 1.6 44.9 18.1 100 0 16.9 2 3 35.4 2.1 .6 8 0 1.7	14.5 1.6 1.6 1.6 1.6 1.6 1.6 1.6	5. 8 33. 7 44 2 13. 0 100 0 24. 0 (1) .4 13. 8 .8 1 9 25 7 1. 4
Oak— Argentina. Canada France. United Kingdom Other countries. Total Pine, yellow, long leaf— Argentina. Brazil Canada Cuba France. Italy Mexico. Panama Spain United Kingdom Uruguay Other countries. Total Railroad tees: Canada. Cuba. France. France. Italy Mexico. Panama Spain United Kingdom Uruguay Other countries Total Railroad tees: Canada. Cuba. France. Honduros.	13, 105 42, 799 2, 520 70, 915 28, 598 157, 937 73, 978 1, 024 1, 106 154, 843 9, 408 2, 621 34, 896 7, 797 66, 108 16, 394 16, 394	4,540 42,487 33,615 24,114 105,141 	6,058 23,124 236 30,282 8,900 68,600 103,982 74 1,707 59,870 3,278 7,959 111,355 6,195 8,267	8 3 27.1 1.6 44.9 18.1 100 0 16.9 2 3 35.4 2.1 .6 8 0 1.7	14.5 1.6 1.6 1.6 1.6 1.6 1.6 1.6	5. 8 33. 7 44 2 13. 0 100 0 24. 0 (1) .4 13. 8 1 9 25 7 1. 4
Pine, yellow, long leaf— Argentina. Brazil Canada Cuba France Italy. Mexico Panama Spain United Kingdom Uruguay Other countries Total Railroad ties: Canada Cuba France Honduros.	73, 978 1, 024 1, 106 154, 843 9, 408 2, 621 34, 896 7, 369 7, 797 66, 108 16, 394	92, 596 9, 902 753 254, 959 2, 129 2, 019 73, 865 10, 511 18, 971 43, 589	103, 982 74 1, 707 59, 870 3, 278 7, 959 111, 355 6, 195 8, 267	16. 9 . 2 . 3 35. 4 2. 1 . 6 8 0 1. 7	14.5 1.6 .1 40.0 .3 .3 11.6	24.0 (1)4 13.8 1.9 25.7 1.4
Argentina Brazil Canada Cuba France Italy Mexico Panama Spain United Kingdom Uruguay Other countries Total Railroad ties: Canada Cuba France Honduros	1, 024 1, 106 154, 843 9, 408 2, 621 34, 896 7, 369 7, 797 66, 108 16, 394	9, 902 753 254, 959 2, 129 2, 019 73, 865 10, 511 18, 971 43, 589	74 1,707 59,870 3,278 7,959 111,355 6,195 8,267	35.4 2.1 .6 8.0 1.7	1.6 .1 40.0 .3 .3 .11.6	(1) .4 13.8 .8 1 9 25 7 1.4
Radroad ties: A Canada Cuba. France. Honduras.		108, 902	4, 897 87, 291	15. 1 3. 7 14. 2	6. 8 3. 0 17. 2	8.8 1 1 20.2
Canada Cuba France Honduras	437, 773	637, 152	432,736	100.0	100.0	100 0
Moxico	Tumber, 1,573,937 319,224 62,543 54,463 476,970 2,001,994 210,771	Number. 922, 547 758, 039 282, 027 516, 754 1, 229, 570 537, 301	Number. 1, 423, 915 51, 209 222, 828 350, 009 610, 318 491, 509	33. 5 6. 8 1. 3 1. 2 10. 1 42. 6 4. 5	21. 7 17. 9 6. 6 12 2 20. 0 12. 6	45 2 1 6 7.1 11 1 19.4 15.6
Total	4,699 ,902	4, 246, 238	3, 149, 788	100.0	100.0	100.0
Timber, sawed: Pitch pine, long leaf— Canada France Italy United Kingdom. Other countries. Total	M feet. 393 8, 433 17, 551 100, 133 27, 676	M feet. 786 5,950 5,380 74,017 48,806	M feet. 668 4,651 8,725 42,107 30,588	.3 5.5 11.4 64.9 17.9	. 6 4. 4 4. 0 54. 9 36. 1	8 5 4 10.1 4× 5 35 2

¹ Less than 0.05 of 1 per cent.

Table 522.—Origin of principal farm products imported into the United States, 1919–1921.

		Quantity.		Per	cent of to	otal.	
Article and country of origin.	Yea	r ending Dec. 3	1—	Year ending Dec. 31—			
	1919	1920	1921	1919	1920	1921	
ANIMAL MATTER.	77	. .					
Cattle: Canada	Number. 550, 004	Number. 316, 559	Number. 179, 408	P. ct. 85.6	P. ct.	P.ct.	
Mexico.	90,541	58,926	13, 874 1, 589	14.1	19.9	92.1 7.1	
Other countries	1,850	3, 629	1, 589	.3	1.0	.8	
Total	642, 395	379, 114	194, 871	100.0	100 0	100.0	
Horses:							
Canada	4, 495	4,084	3, 199	90.0	91.2	89. 0	
France	11 412	25 178	59 92	8. 2	.6 4.0	1.7 2.6	
MexicoOther countries	76	189	243	1.6	4. 2	6.7	
Total	4,994	4, 476	3, 593	100.0	100.0	100.0	
Cheese, including substitutes:	Pounds.	Pounds.	Pounds.				
Argentina	5, 043, 010	9, 871, 815	Pounds. 8, 088, 775 2, 497, 978 2, 080, 874	44.5	61.7	3C. 1	
Argentina. Canada. France	5, 043, 010 4, 731, 529 680, 867	9, 871, 815 813, 001	2, 497, 978	41.8	5. 1	9.3 7.7	
France	680, 867 373, 807	1, 583, 119 985, 197	2, 080, 874	6.0 3.3	9.9 6.2	33.9	
Notherlands	4, 947	863, 405	9, 099, 697 1, 183, 232 2, 358, 883	(1)	5.4	4.4	
Italy Notherlands. Switzerland. Other countries.	4, 947 12, 354 485, 690	863, 405 801, 902	2, 358, 883	.1	5.0	8.8	
Other countries	485, 690	1, 075, 286	1, 556, 965	4.3	6.7	5.8	
Total	11, 332, 204	15, 993, 725	26, 866, 404	100.0	100.0	100.0	
Fibers, animal:							
Silk, raw— China	0 000 400	5 021 962	0 596 609	20.3	19.7	21.1	
Ttaly	1, 865, 807	1, 111, 132	3, 085, 041	4. 2	3.7	6.8	
Italy Japan	9, 099, 492 1, 865, 807 33, 726, 581	5, 931, 863 1, 111, 132 22, 903, 609	9, 586, 608 3, 085, 041 31, 704, 332 979, 114	75.3	76.2	69.9	
Other countries	125, 038	111,770	979, 114	.2	.4	2. 2	
Total	44, 816, 918	30, 058, 374	45, 355, 095	100.0	100.0	100.0	
Wool, class 1—				27.2	00.0	90.0	
Argentina	118, 854, 446	71, 910, 150 37, 371, 888	68, 197, 712 42, 409, 967	35. 6 13. 8	33. 9 17. 6	32. 8 20. 4	
Austrana	118, 854, 446 46, 034, 615 204, 210	1, 249, 998	542, 564	.1	.6	7.6	
Argentina. Australia. Belgium British South Africa. Canada.	51, 466, 180	1, 249, 998 17, 296, 456 7, 628, 812 14, 514, 331	542, 564 15, 694, 054 3, 088, 555 8, 106, 726	15.4	8.1	7.6	
Canada	12, 066, 657	7, 628, 812	3, 088, 555	3. 6 3. 6	3. 6 6. 8	1. 5 3. 9	
China	11, 959, 417 8, 528, 802	525, 409		2.6	.2	4.1	
New Zealand	14, 234, 386	25, 531	8, 341, 863	4.3	(1) 13, 6	4.0	
Canada Chile China New Zealand United Kingdom Urnguay	14, 704, 025	525, 409 25, 531 28, 967, 677 29, 767, 584	21, 406, 205	4. 4 14. 9	13.6	10.3 14.0	
OrnguayOther countries	14, 704, 025 49, 931, 366 6, 115, 434	3, 134, 401	8, 341, 803 21, 406, 205 29, 172, 620 2, 450, 867	1.7	1.6	1.1	
	334, 099, 538	212, 392, 240	207, 866, 615	100.0	100.0	100 0	
Total	552, 055, 555	212, 002, 210	201, 000, 020				
Wool, class 2—	2, 087, 101	1, 347, 067	5, 570, 027	14.0	11.9	37.4	
Canada	650, 924	1, 347, 067 199, 247 2, 863, 800	5, 570, 027 114, 502 913, 946	4.4	1.8	6.1	
Argentina Canada China	642, 970	2, 863, 800	913, 946	4.3 22.8	25. 2 27. 0	31. 7	
Umited Kingdom Other countries	650, 924 642, 970 3, 382, 806 8, 081, 171	3, 063, 162 3, 881, 918	4, 715, 441 3, 584, 724	54. 5	34. 1	24 0	
Total	14, 844, 972	11, 355, 194	14, 898, 640	100.0	100.0	100 0	
Wool, class 3—	14, 045, 112	1, 764, 692	10, 181, 420 1, 373, 857	14.5	4.9	10.4	
British India.	66, 218	1, 764, 692 365, 900	1, 373, 857	.1	1.0	1.4	
Argentina British India. British South Africa	14, 045, 112 66, 218 2, 386, 257 13, 274, 457 29, 813, 744	1 674, 041	1, 516, 947 85, 750 37, 182, 717	2. 5 13. 7	1.9 10.4	1.5	
Chile	29 813 744	3, 715, 570 11, 762, 921	37, 182, 717	30.8	32.8	38. 0	
Russia (Asiatic and Euro-		ł	ľ	l	Ì	-	
moon)	1, 539, 889	2, 650, 565	10, 460	1.6 1.4	7.4 7.8	(1)	
Turkey, Asiatic	1, 353, 398	2, 810, 036	400, 490 113, 126	3 0	6.5	i.i	
Turkey, Asiatic Turkey, European United Kingdom Other countries	1, 539, 889 1, 353, 398 2, 931, 914 19, 044, 860 12, 492, 475	2, 810, 036 2, 810, 036 2, 349, 343 6, 380, 016 3, 397, 123	113, 126 37, 838, 591	19.6	17.8	38.6	
	100° 1000	9 907 109	9, 197, 138	12.8	9.5	9.5	

Table 522.—Origin of principal farm products imported into the United States, 1919—1921—Continued

		Quantity.		Per	cent of t	otal
Article and country of origin.	Yea	r ending Dec.	31—	Year e	nding D	ec. 31—
	1919	1920	1921	1919	1920	1921
ANIMAL MATTER—continued.						
Hides and skins other than furs: Calfskins— Argentina. Belgium. Canada Denmark East Indies. France Germany Netherlands Norway United Kingdom Other countries.	Number. 4, 467, 257 721, 686 5, 280, 116 4, 086, 657 24, 043, 701 4, 590, 533 7, 737, 059 2, 012, 338 1, 664, 878 9, 949, 296	Number. 2, 872, 754 753, 992 2, 719, 149 2, 230, 908 7, 708, 506 8, 201, 685 3, 108, 868 1, 361, 112 5, 356, 829	Number. 4, 856, 813 1, 907, 656 5, 771, 368 3, 473, 690 271, 212 11, 847, 886 4, 605, 972 1, 598, 701 2, 843, 472 10, 450, 247	P. ct. 6.9 1.1 8.22 6.3 37.2 7.1 12.0 3.1 2.6 15.5	P. ct. 8. 2 2. 1 7. 7 6. 4 21. 9 23. 3 (1) 8. 8 8. 8 2. 3 15. 4	P. ct 10: 4.0 12.0 7.2 24.0 9.0 9.0 3.3 5.0 22.0
Total	64, 555, 521	35, 132, 286	47, 937, 511	100.0	100.0	100
Cattle hides— Argentina Belgium Brazil Canada China Colombia Cuha East Indies France Haly Mexico Netherlands United Kingdom Uruguay Venezuela Other countries	146, 103, 225 174, 056 29, 517, 585 43, 062, 218 7, 748, 834 14, 979, 377 12, 500, 062 14, 350, 871 7, 701, 942 93, 351 26, 288, 312 4, 031, 983 5, 370, 120 48, 294, 455 7, 922, 391 39, 143, 489	113, 117, 368 139, 018 19, 488, 355 27, 567, 282 4, 755, 174 9, 977, 059 6, 549, 228 9, 046, 283 7, 132, 204 1, 999, 432 7, 064, 935 2, 422, 620 1, 907, 200 25, 905, 130 4, 733, 757 33, 519, 371	68, 012, 162 445, 238 22, 919, 382 25, 537, 190 1, 320, 426 4, 252, 836 10, 819, 754 1, 370, 870 3, 599, 490 11, 167, 715 226, 489 94, 213 283, 332 28, 363, 510 1, 293, 427 10, 475, 407	35. 9 (1) 7. 0 10. 6 1. 9 3. 7 3. 1 3. 5 1. 9 (1) 6. 5 1. 0 11. 9 1. 9	41. 1 7. 1 10. 0 1. 7 3. 6 2. 4 3. 3 2. 6 . 7 2. 6 . 9 . 9 . 1. 7 9. 4 1. 7	37. 12. 14. 2. 6. 2. 5.
Total	407, 282, 271	275, 324, 507	180, 186, 449	100.0	100.0	100.0
Goatskins— Aden Africa n e. s. Argentina. Brazil British Africa China. East Indies. France. Mexico United Kingdom Venezuela. Other countries.	6, 726, 235 2, 385, 158 7, 474, 336 6, 606, 837 7, 931, 326 15, 217, 361 162, 772, 369 11, 848, 224 3, 315, 986 4, 432, 373 2, 813, 980 12, 132, 689	4, 301, 269 2, 355, 373 2, 898, 427 4, 894, 496 3, 938, 275 19, 061, 548 20, 295, 295 816, 267 1, 633, 663 1, 865, 025 1, 650, 788 7, 494, 211	2, 631, 926 1, 265, 263 4, 655, 799 3, 535, 720 1, 718, 355 10, 585, 514 27, 145, 852 462, 195 1, 278, 810 1, 770, 236 6, 593, 458	5. 0 1. 8 5. 6 4. 9 5. 9 11. 4 47. 0 1. 4 2. 5 3. 3 2. 1 9. 1	5. 4 2. 9 3. 6 6. 1 4. 9 23. 8 36. 5 1. 0 2. 0 2. 3 2. 1 9. 4	4. 2 2. 0 7. 4 5. 6 2. 7 16. 8 43. 0 2. 4 2. 0 2. 8
Total	133, 656, 814	80, 204, 637	63, 126, 227	100.0	100.0	100.0
Sheepskins— Aden Argentina Brazil British India British Oceania British South Africa Canada China France Russia, European United Kingdom Uruguay Other countries	2, 494, 391 15, 674, 103 3, 175, 161 4, 694, 988 16, 993, 622 7, 415, 027 5, 341, 467 2, 072, 754 370, 094 76, 423 9, 971, 075 2, 491, 237 14, 321, 467	1, 352, S34 13, 679, 809 2, 420, 531 4, 981, 618 23, 880, 470 4, 678, 403 3, 111, 231 600, 878 633, 980 40, 240 11, 950, 393 14, 567, 861	494, 187 9, 979, 987 1, 483, 089 680, 682, 15, 028, 446 1, 969, 474 2, 854, 250 84, 681 584, 241 5, 127 8, 635, 945 512, 222 3, 542, 026	2. 9 18. 4 3. 7 5. 5 19. 9 8. 7 6. 3 2. 4 . 1 1 (. 7 2. 9 17. 1	1. 6 16. 5 2. 9 6. 0 28. 9 5. 7 3. 8 (1) 14. 4 11. 0	1. 1 21 8 3. 2 1 5 32. 8 4. 3 4. 3 (1) 18 8 1. 7. 7
Total	85, 031, 819	82, 748, 981	45, 854, 457	100.0	100.0	100. (

Table 522.—Origin of principal farm products imported into the United States, 1919—1921—Continued.

		Quantity.		Per	cent of t	otal.
Article and country of origin.	Yea	r ending Dec	31		nding De	
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER.						
Cocoa, crude: Brazil British West Africa British West Indies Dominican Republic Ecuador Portugal United Kingdom Venezuela Other countries	Pounds 69, 990, 057 158, 713, 898 30, 199, 700 44, 665, 321 46, 404, 529 1, 087, 271 7, 257, 064 10, 726, 250 22, 353, 219	Pounds. 60, 577, 524 82, 053, 130 34, 642, 516 42, 998, 532 61, 178, 384 12, 190, 057 13, 464, 802 16, 381, 647 20, 180, 220	Pounds 45,000,802 52,695,436 53,384,639 54,872,511 40,213,802 4,475,315 11,946,935 19,460,033 22,767,692	P ct. 17 9 40 6 7 7 11.4 11 9 2 7 5 6	P ct. 17.6 23.9 10.1 12.5 17.8 3.5 3.9 4.8 5.9	P. ct 14.8 17.3 17.5 18.0 13.2 1.5 3.9 6.4 7.4
Total	391, 397, 309	343,666,812	304, 817, 125	100 0	100 0	100 0
Coffee Brazil. Central American States and British Honduras	787, 312, 293 131, 638, 695	785, 810, 689 159, 200, 281	839, 212, 388 118, 607, 382	59.0 9 9	60,6	62, 6
Colombia East Indies Mexico Netherlands Venezuela West Indies and Bermuda Other countries	131, 638, 695 150, 483, 853 56, 919, 126 29, 567, 469 1, 335 109, 777, 831 42, 013, 841 25, 849, 624	159, 200, 281 194, 682, 616 28, 674, 951 19, 519, 865 1, 126, 546 65, 970, 954 29, 204, 734 13, 248, 674	118, 607, 382 249, 123, 356 12, 612, 578 26, 895, 034 899, 813 59, 783, 303 15, 398, 073 18, 447, 849	11.3 4 3 2.2 (¹) 8 2 3.2 1.9	12 3 15 0 2.2 1.5 .1 5.1 2 3	8 8 18.6 9 2.0 .1 4.5 1.1
Total		1, 297, 439, 310	1, 340, 979, 776	100 0	100 0	100.0
Fibers, vegetable. Cotton— British India Egypt. Mexico Peru United Kingdom Other countries	4, 927, 097 86, 485, 327 30, 890, 061 20, 213, 172 18, 545, 720 14, 296, 991	7, 044, 100 179, 894, 406 38, 084, 625 25, 436, 435 14, 006, 601 35, 508, 191	1, 908, 493 72, 893, 710 39, 214, 400 12, 980, 626 7, 139, 425 4, 811, 958	2 8 49.3 17 6 11 5 10 6 8.2	2 3 60.0 12.7 8.5 4.7 11 8	1 4 52 5 28.2 9.3 5 1 3.5
Total	175, 358, 368	299, 994, 378	138, 948, 612	100 0	100 0	100 0
Flax— Belgium Canada Russia, European United Kingdom Other countries	Long tons. 18 1,370 21 1,510 1,501	Long tons. 52 3,872 385 319 2,163	Long tons 531 856 27 1,101 1,417	31.0 .5 34.2 33.9	57. 0 5. 7 4 7 31. 8	13.5 21.8 .7 28.0 36.0
Total	4, 420	6, 791	3,932	100.0	100 0	100.0
Jute and jute butts— British East Indies Other countries	61, 966 366	94,688 1,351	60, 850 1, 566	99.4	98 6 1 4	97. 5 2. 5
Total	62, 332	96,039	62,416	100 0	100 0	100 0
Manila fiber— Philippine Islands Other countries	68,044 492	66, 675 791	30, 904 599	99 3	98.8 1 2	98 1 1. 9
Total Sisal grass—	68,536	67,466	31,503	100.0	100 0	100 0
Mexico. Other countries. Total	133, 591 10, 951 144, 542	164, 187 16, 572 180, 759	104, 702 11, 020 115, 722	92 4 7 6 100 0	90.8 9.2 100 0	90 5 9. 5 100. 0
Bananas:	Bunches.	Runches.	Bunches			
British West Indies. Central American States and British Honduras Cuba. South America. Other countries.	6, 912, 779 24, 293, 461 1, 515, 832 4, 094, 940 176, 083	7, 143, 128 27, 006, 605 1, 697, 020 2, 679, 154 793, 655	8,687,005 27,922,031 1,774,161 3,515,236 1,467,330	18 7 65.7 4 1 11.1 .4	18. 2 68. 7 4. 3 6. 8 2 0	20.0 64.4 4.1 8 1

Table 522.—Origin of principal farm products imported into the United States, 1919—1921—Continued.

		Quantity.		Per	cent of t	otal.
Article and country of origin.	Yes	ir ending Dec.	31—	Year er	nding De	ec. 31—
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued.						
Walnuts: China France Italy Turkey, Asiatic Other countries	Pounds. 7, 080, 192 8, 519, 292 6, 360, 433 9, 536, 060	Pounds, 6, 701, 431 14, 718, 220 5, 411, 393 151, 685 4, 908, 103	Pounds. 6, 644, 442 19, 018, 175 12, 690, 408 43, 633 8, 348, 000	P. ct. 22 5 27. 0 20 2 30. 3	P. ct 21 0 46. 2 17. 0 .5 15. 3	P. ct. 14. 2 40 7 27. 1 .1 17. 9
Total	31, 495, 977	31, 890, 832	46, 744, 718	100.0	100 0	100.0
Oils, vegetable Ohve, edible— France Italy Spain Other countries	Gallons. 183, 121 251, 902 8, 557, 416 31, 694	Gallons. 382,040 1,124,041 2,420,592 152,138	Gallons. 626, 570 3, 108, 749 1, 230, 942 1, 661, 838	2 0 2.8 94.8 .4	9. 4 27. 6 59 3 3. 7	9. 5 46 9 18 6 25. 0
Total	9, 024, 136	4, 078, 811	6, 628, 099	100.0	100.0	100.0
Soya bean oil— China. Japanese-China. Japan Other countries.	Pounds. 11, 230, 292 99, 042, 642 84, 218, 232 1, 317, 255	Pounds. 2, 484, 191 57, 426, 720 52, 301, 232 1, 607	Pounds 1,943,916 14,291,593 1,003,695 43,763	5. 7 50. 6 43. 0 . 7	2. 2 51. 2 46. 6 (¹)	11. 2 82. 7 5. 8
Total	195, 808, 421	112, 213, 750	17, 282, 967	100.0	100.0	100.0
Opium: Turkey, Asiatic and European. United Kingdom. Other countries.	641, 187 40, 207 48, 878	187, 978 4, 753 18, 546	57, 908 43, 760	87. 8 5. 5 6. 7	89. 0 2 2 8. 8	57. 0 43. 0
Total	730, 272	211, 277	101,668	100.0	100.0	100.0
Seeds Flaxseed or linseed— Argentina. Canada. Other countries	Bushels. 12, 353, 932 1, 279, 132 403, 120	Bushels. 22,778,359 1,637,813 225,018	Bushels. 8, 885, 411 3, 094, 627 346, 206	88. 0 9. 1 2. 9	92. 4 6. 6 1. 0	72.1 25 1 2.8
Total.	14, 036, 184	24, 641, 190	12, 326, 244	100.0	100 0	100.0
Grass seed—clover— Canada France. Germany Italy Other countries	Pounds. 10, 870, 385 8, 530, 878 27, 517 4, 639, 318 973, 900	Pounds. 4,379,656 12,198,012 1,505,692 5,095,882 2,307,840	Pounds. 13, 144, 346 18, 871, 802 5, 277, 938 131, 279 1, 716, 845	43. 4 34. 1 .1 18. 5 3. 9	17. 2 47. 9 5. 9 20 0 9. 0	33 6 48 2 13.5 (1) 4.7
Total	25, 041, 998	25, 487, 082	39, 142, 210	100.0	100.0	100.0
Sugar, raw cane. Cuba Dominican Republic Dutch East Indies Philippine Islands South America Other countries	6, 686, 141, 983 7, 989, 541 30, 963, 112 175, 872, 529 35, 040, 367 83, 682, 943	5, 762, 152, 794 184, 071, 693 546, 193, 950 291, 716, 240 522, 999, 268 721, 534, 130	5, 180, 145, 099 258, 268, 548 34, 062, 342 329, 754, 769 48, 123, 404 117, 131, 712	95. 2 .1 .4 2. 5 .5 1. 3	71. 8 2. 3 6. 8 3. 6 6. 5 9. 0	86. 8 4. 3 . 6 5. 5 . 8 2. 0
Total	7, 019, 690, 475	8, 028, 668, 075	5, 967, 485, 874	100.0	100.0	100.0
Tea: Canada. China East Indies Japar United Kingdom. Other countries	2, 257, 012 10, 557, 985 26, 987, 615 39, 959, 916 534, 647 665, 745	1, 644, 840 10, 624, 821 31, 384, 537 29, 749, 891 13, 931, 177 2, 911, 349	755, 572 14, 639, 907 28, 313, 956 21, 407, 284 9, 224, 055 2, 145, 992	2.8 13.0 33.3 49.4 .7	1. 8 11. 8 34. 8 33. 0 15. 4 3. 2	1. 0 19. 1 37. 0 28. 0 12. 1 2. 8
- Total	80, 962, 920	90, 246, 615	76, 486, 766	100.0	100.0	100.0
I Tiese than A AK of I not cont						

Table 522.—Origin of principal farm products imported into the United States, 1919—1921—Continued.

		Quantity.		Per	cent of t	otal
Article and country of origin.	Yea	ar ending Dec.	31—	Year e	nding D	es 31—
	1919	1920	1921	1919	1920	1921
VEGETABLE MATTER—continued.						·
Tobacco leaf Wrapper— Dutch East Indies. Notherlands. Other countries.	Pounds 6,504,615 109,723 1,161,143	Pounds. 2, 102, 664 7, 720, 255 1, 944, 719	Pounds. 601, 492 4, 409, 889 902, 825	P. ct 83 7 1 4 11 9	P. c ^t 17 9 65 6 16. 5	P. ct. 10 5 74 6 15 2
Total	7,775,481	11,767,638	5, 914, 206	100 0	100 0	100 (
Other leaf— Cuba. Dominican Republic. Germany. Greece Turkey, Asiatic. Turkey, European Other countries.	21,969,643 6,433,478 20,702,622 11,878,239 3,094,792 14,131,362	23,616,999 ±,054,261 99,818 9,023,777 18,856,091 2,960,815 11,841,997	17, 465, 507 415, 430 1, 053, 816 12, 014, 375 5, 016, 794 2, 305, 039 8, 809, 236	28 1 8 2 26 5 15.2 4.0 18 0	33 5 5 8 .1 12 8 26 8 4.3 16 8	37 1 25 3 10 7 4 6
Total	78, 210, 136	70, 453, 758	17, 080, 197	100.00	100 0	100 (
FOREST PRODUCTS.						
India rubber, crude: Belgium Brazil Canada Central Amorican States and	665,001 58,845,384 5,320,540	1,437,642 36,981,973 371,334	1,313,789 23,274,281 279,331	11.0 1 0	.3 6 5 .1	 5 (
British Henduras Bast Indies France Mexico Other South America Portugal United Kingdom Other countries	448, 827 390, 884, 566 2, 410, 319 963, 242 6, 965, 752 87, 422 60, 251, 894 9, 097, 474	200, 583 424, 301, 608 3, 588, 662 900, 411 6, 215, 157 2, 188, 747 75, 297, 018 15, 063, 001	$\begin{matrix} 34,457\\ 321,050,907\\ 585,375\end{matrix}$ $\begin{matrix} 1,233,806\\ 1,248,472\\ 41,520,535\\ 24,706,351\end{matrix}$	72 9 .4 .2 1.3 (1) 11.2 1.8	(1) 71 9 .6 .2 1 1 .4 13.3 2 6	(1) 77.
Total	535, 940, 421	566, 546, 136	415, 283, 304	100 0	100 0	10%
Wood: Cabinet wood, mahogany— British Airica Central American States and British Honduras Mexico United Kingdom Other countries	M feet. 13,849 18,556 5,610 656 4,007	M feet. 9,521 26,534 6,350 5,088 5,114	M feet. 15, 291 18, 426 3, 004 1, 235 5, 487	32 4 43 5 13 1 1 5 9.5	18 1 50. 4 12 1 9 7 9 7	35 2 42 4 6 9 2 8 12 7
Total	42,678	52,607	43,443	100 0	100 0	100 (
Boards, deals, planks, and other	£20,010	22,001	10,120			200 0
sawed lumber— Canada Other countries	1,119,244 24,943	1.309,260 29,270	816,854 13,679	97. 8 2. 2	97. 8 2. 2	98 4 1.6
Total	1,144,187	1, 338, 530	830, 533	100 0	100 0	100 0
Wood pulp: Canada Germany Norway Sweden Other countries	Long tons. 461, 392 11, 168 76, 410 18, 902	Long tons. 584, 534 7, 921 30, 590 139, 748 46, 398	Long tons 359, 684 18, 055 35, 646 150, 430 58, 596	81. 2 2. 0 13 5 3 3	72. 2 1 0 3 8 17 3 5 7	57 8 2 9 5. 7 24. 2 9 4
Total	567, 872	809, 194	622, 411	100 0	100 0	100 0

¹ Less than 0.05 of 1 per cent.

Table 523.—Foreign trade of the United States in agricultural products 1852-1921.

[Compiled from reports of Foreign Commerce and Navigation of the United States All values are gold.]

	Agricult	anal exp	orts.1	Agricul impor				Forest	product	3
Year ending	Domes	itic.			Don	Excess of agricultural exports (+) or of	Expo	orts		Excess
June 30—	Total. Per-cent-axe of all exports. Total.	Total.	cent-		Do- mestic.	For- eign.	Im- ports.	of exports (+) or of imports (-).		
Average: 1852-1856 1857-1861 1862-1866 1867-1871 1877-1881	Thou-sands. \$164, 895 215, 709 148, 866 250, 713 396, 666 591, 351	Per cent. 80. 9 81. 1 75. 7 76. 9 78. 5 80. 4	Thou- sands. \$8,060 10,174 9,288 8,538 8,853 8,632	Thou-sands. \$77, 847 121, 018 122, 222 179, 774 263, 156 266, 384	Per cent. 29.1 38.2 43.0 42.3 46.5 50.4	+79,477 +142,364	Thou- sands \$6, 819 9, 995 7, 366 11, 775 17, 907 17, 579	Thou- sands. \$694 962 798 691 960 553	Thou- sands \$3, 256 6, 942 8, 511 14, 813 19, 728 22, 006	Thou-sands. +\$4,257 +4,015 -347 -2,347 -862 -3,874
1882-1886 1887-1891 1892-1896 1897-1901 1902-1906 1907-1911	557, 473 573, 287 638, 748 827, 566 879, 541 975, 399	59. 5	9, 340 6, 982 8, 446 10, 962 11, 922 12, 126	311, 708 366, 950 398, 332 376, 550 487, 881 634, 571	43.3 51.6	+213,319 $+248,863$ $+461,978$	24, 705 26, 061 29, 276 45, 961 63, 585 88, 764	1, 443 1, 707 3, 283 3, 850	34, 253 39, 647 45, 091 52, 327 79, 885 137, 051	-12, 144 -14, 107 -3, 083 -12, 451
1912-1916	1, 256, 452	45, 1	24, 275	924, 699	50.1	+356,028	92, 129	5, 563	185,390	-87,698
1901 1902 1903 1904 1905	951, 628 857, 114 878, 481 859, 160 826, 905	63. 2 63. 1 59. 5	11, 293 10, 308 13, 505 12, 625 12, 317	391, 931 413, 745 456, 199 461, 435 553, 851	47. 6 45. 8 44. 5 46. 6 49. 6	+435,787 +410,350	55, 369 48, 929 58, 734 70, 086 63, 199	4, 177	57, 144 59, 187 71, 478 79, 619 92, 681	-6,649 -9,879 -5,356
1906	976, 047 1, 054, 405 1, 017, 396 903, 238 871, 158	56. 9 55. 5	11, 614 10, 299 9, 585	554, 175 626, 837 539, 690 638, 613 687, 509	43. 7 45. 2 48. 7	+439, 182 +488, 005 +274, 210	76, 975 92, 949 90, 362 72, 442 85, 030	5,500 4,570	96, 462 122, 421 97, 733 123, 920 178, 872	-23 972
1911	1,030,794 1,050,627 1,123,652 1,113,974	51. 2 48. 4 46. 3 47. 8	12, 108	680, 205 783, 457 815, 301 924, 247	44. 5 47. 4 45. 0 48. 8	+279,277 +323,381	103, 039 108, 122 124, 836 106, 979	6,413 7,432	162, 312 172, 523 180, 502 155, 261	-51, 686 -57, 988 -48, 235 -43, 765
1915	1.1968, 253	54.3 35.5 31.6 39.1	42, 088 37, 640	910, 786 1, 189, 705 1, 404, 972 1, 618, 874	54.1 52.8	+370,454 +600,921	52, 554 68, 155 68, 919 87, 181	11, 172	252, 851 322, 699	-108, 207 -180, 331 -242, 609 -241, 787
1918 1919 1920 1921	2,756,665 4,107,159	45. 6 53. 0 42. 9 48. 4	122, 561 105, 817	1, 671, 196 2, 392, 879 3, 011, 372 1, 249, 768	57.0		88, 022 150, 324 191, 847 84, 602		521.338	-185, 692 -217, 233 -319, 141 -129, 379

¹ Not including forest products.

MISCELLANEOUS AGRICULTURAL STATISTICS.

CROP SUMMARY.

The December estimates of the Crop Reporting Board of the Bureau of Agricultural Economics of the acreage, production, and value (based on prices paid to farmers on Dec 1) of important farm crops of the United States in 1920, 1921, and 1922, based on the reports of the correspondents and agents of the Bureau, are as follows (1921 figures revised, 1922 subject to revision in December)

Table 524.—Crop summary, 1920, 1921, and 1922.

			Produc	tion.	Farm value Dec 1		
Crop and year.	Acreage.	Unit	Per acre.	Total	Per unit.	Total	
orn. 1920. 1921. 1922. Vinter wheat:	101, 699, 000 103, 740, 000 102, 428, 000	Bushelsdo	31. 5 29 6 28. 2	3, 208, 584, 000 3, 068, 569, 000 2, 890, 712, 000	Dollars 0 670 . 423 . 657	Dollars 2, 150, 332, 0 1, 297, 213, 0 1, 900, 287, 0	
1920. 1921. 1922. pring wheat:	40,016,000 43,414,000 42,127,000	do do	15 3 13. 8 13. 9	610, 597, 000 600, 316, 000 586, 204, 000	1.486 .951 1.048	907, 291, 0 571, 044, 0 614, 561, 0	
1920 1921 1922	21, 127, 000 20, 282, 000 19, 103, 000	do do	10.5 10 6 14.1	222, 430, 000 214, 589, 000 270, 007, 000	1.301 .856 .924	289, 972, 0 183, 790, 0 249, 578, 0	
ll wheat 1920	61, 143, 000 63, 696, 000 61, 230, 000	do do	13.6 12.8 14.0	833, 027, 000 814, 905, 000 856, 211, 000	1.437 .926 1.009	1, 197, 263, (754, 834, (854, 139, (
eats. 1920. 1921. 1922.	42, 491, 000 45, 495, 000 40, 693, 000	do do	35 2 23.7 29.9	1,496,281,000 1,078,341,000 1,215,496,000	.460 .302 .394	688, 311, (325, 954, (478, 548, (
arley* 1920 1921 1922	7,600,000 7,414,000 7,390,000	do do	24. 9 20. 9 25. 2	189, 332, 000 154, 946, 000 186, 118, 000	.713 .419 .525	135, 083, 6 64, 934, 6 97, 751, 6	
tye: 1920. 1921. 1922.	4, 409, 000 4, 528, 000 6, 210, 000	do do	13 7 13 6 15.4	60, 490, 000 61, 675, 000 95, 497, 000	1,258 .697 .692	76, 693, 643, 014, 666, 085, 6	
1920	701, 000 680, 000 785, 000	do do	18. 7 20. 9 19. 2	13, 142, 000 14, 207, 000 15, 050, 000	1. 283 . 812 . 885	16, 863, (11, 540, (13, 312, (
laxseed: 1920. 1921. 1922.	1,757,000 1,108,000 1,308,000	do do	6.1 7.2 9.4	10,774,000 8,029 000 12,238,000	1.767 1 451 2.114	19,039,0 11,648,0 25,869,0	
tice* 1920 1921 1922	1,336,000 921,000 1,055,000	do do	39 0 40.8 39.8	52, 066, 000 37, 612, 000 41, 965, 000	1. 191 . 952 . 934	62,036,0 35,802,0 39,178,0	
otatoes 1920 1921 1922 weet potatoes:	3,657,000 3,941,000 4,331,000	do do	110.3 91.8 104.2	403, 296, 000 361, 659, 000 451, 185, 000	1.145 1.101 .582	461,778,0 398,362,0 262,608,0	
1921	992,000 1,066,000 1,116,000	do do	104. 8 92. 5 98. 1	103, 925, 000 98, 654, 000 109, 534, 000	1 134 .881 .771	117, 834, (86, 894, (84, 492, (
lay, tame: 1920 1921 1921	58, 101, 000 58, 769, 000 61, 208, 000	Tonsdo	1. 51 1. 40 1. 58	87, 855, 000 82, 379, 000 90, 687, 000	17 76 12 11 12.59	1,560,235,0 997,527,0 1,217,044,0	
1920	15, 787, 000 15, 632, 000 15, 842, 000	do do	1.11 .98 1.02	17, 460, 000 15, 391, 000 16, 104, 000	11 35 6.63 7 12	198, 115, 0 101, 991, 0 114, 635, 0	
1920 1921 1922	73, 888, 000 74, 401, 000 77, 050, 000	do do	1. 43 1. 31 1. 46	105, 315, 000 97, 770, 000 112, 791, 000	16.70 11 25 11.81	1,758,350,0 1,099,518,0 1,331,679,0	
obacco: 1920. 1921. 1922.	1, 960, 000 1, 427, 000 1, 725, 000	Poundsdo	807.3 749 6 768.0	1, 582, 225, 000 1, 069, 693, 000 1, 324, 840, 000	.212 .199 .231	335, 675, 0 212, 728, 0 306, 179, 0	
otton: 1920. 1921. 1922.	35, 878, 000 30, 509, 000 33, 742, 000		1 178. 4 1 124. 5	13, 439, 603 7, 953, 641 9, 964, 000	2.139 2.162 2.238	933, 658, 0 643, 933, 0 1, 192, 461, 0	

CROP SUMMARY-Continued.

Table 524.—Crop summary, 1920, 1921, and 1922—Continued.

			Produc	tion.	Farm v	alue Dec 1.
Crop and year	Acreage.	Unit.	Per acre.	Total.	Per umt.	Total.
Cottonseed: 1920 1921 1922		Tons		5, 971, 000 3, 531, 000 4; 424, 000	Dollars, 26, 00 29, 15 40 18	Dollars 155, 256, 000 102, 929, 000 177, 756, 000
Clover seed. 1920. 1921. 1922. Sugar beets: 8	1,082,000	Bushelsdo	1. 8 1. 7 1. 7	1,911,000 1,538,000 1,875,000	11. 95 10. 75 10. 08	23, 227, 00 16, 529, 00 18, 905, 00
Sugar beets: 8	815,000 537,000	Tons	9 55 9.76	7, 782, 000 5, 243, 000	6.38 5 65	49, 626, 00 29, 605, 00
1921	815,000	Short tons.	1.25	1,020,000		
1922 Cane sugar (La).	537,000	do	1.29	691,000		
1921 1922 Maple sugar and sirup (as sugar):	226, 400 217, 000	do	1 43 1.11	321, 400 241, 400		
1921 1922 Sorghum sirup:	4 15, 219, 000 4 16, 385, 000	Pounds.	5 1.59 5 2.12	24, 178, 000 34, 806, 000	6 .257 6 .219	6,214,00 7,623,00
1920 1921 1922	536,000 518,000 448,000	Gallonsdo	92.4 88.0 81.5	49, 505, 000 45, 566, 000 36, 532, 000	1.069 .629 .710	52,943,00 28,681,00 25,946,00
Peanuts 1929 1921 1922	1,181,000 1,214,000 986,000	Poundsdo	712.5 683.1 632 4	841, 471, 000 829, 307, 000 623, 507, 000	. 053 . 040 . 047	44, 256, 00 33, 097, 00 29, 222, 00
Beans: 7 1920 1921 1922 Grain soighums: 7	847 000	Bushelsdo	10.8 11.8 11.4	9, 185, 000 9, 150, 000 11, 893, 000	2. 95 2. 67 3. 74	27, 134, 00 24, 399, 00 44, 429, 00
Grain soighums: 7 1920. 1921. 1922. Broom corn: 7	5 120 000	do do	26 8 24 6 17. 9	137, 408, 000 113, 990, 000 90, 381, 000	. 929 . 391 . 878	127, 629, 00 44, 575, 00 79, 389, 00
1920 1921 1922	275, 500 222, 000	Tons do	8 265.0	36, 500 38, 200 34, 500	126. 16 72. 20 220. 70	4, 605, 00 2, 758, 00 7, 614, 00
Onions, ^{7 9} 1921 1922 Cabbage: ^{7 9}	57, 900 64, 200	Bushelsdo		14, 406, 000 17, 940, 000	10 1. 31 10 . 92	18,856,00 16,471,00
1921 1922	103,300 134,600	Tons	6. 5 8. 2	673, 900 1, 097, 600	10 24.66 10 13.03	16,612,00 14,301,00
Hops: 7 1920 1921 1922 Cranberries: 7	28, 000 27, 000 22, 000	Poundsdo	1,224 3 1,086.7 1,177.7	34, 280, 000 29, 340, 000 25, 910, 000	. 357 . 241 . 085	12, 236, 00 7, 080, 00 2, 200, 00
1920 1921 1922	25,000 25,000	Barrelsdo	18.0 15.4	419,000 381,000 562,000	12. 28 16. 99 10. 18	5, 514, 00 6, 526, 00 5, 720, 00
Apples, total:	,	Byrahala		223, 677, 000 99, 002, 000 203, 628, 000	1.148 1.680 .993	256, 699, 00 166, 343, 00 202, 102, 00
1921 1922 Apples, commercial: 1920 1921 1922		Barrelsdo		33, 905, 000 21, 557, 000 31, 090, 000	3. 74 1. 60 2. 94	126, 800, 00 99, 131, 00 91, 534, 00
Peaches: 1920. 1921. 1922.			1	45, 620, 000 32, 602, 000 56, 705, 000	2. 104 1. 587	95, 970, 00 51, 739, 00 75, 613, 00
1922 Pears: 1920 1921 1922	1	1	i	56, 705, 000 16, 805, 000 11, 297, 000	1. 333 1. 658 1. 706	75, 613, 00 27, 865, 00 19, 268, 00 19, 789, 00

Including beets grown in Canada for United States factories.
 Per tree.
 Price Mar 15.

⁴ Trees tapped.
⁷ Principal producing States.

CROP SUMMARY—Continued.

Table 524.—Crop summary, 1920, 1921, and 1922—Continued.

			Produc	Farm value Dec. 1.		
Crop and year.	Acreage.	Unit.	Per acre.	Total	Per unit.	Total
Oranges (2 States): 1920 1921 1922		Boxes do		29, 700, 000 20, 300, 000 24, 900, 000	Dollars 2. 19	Dollars 64, 908, 000 49, 175 (00 61 305, 00)
Total: 1920	347, 847, 300 348, 435, 600 348, 969, 800					8, 998, 820, 006 5-630-751, 19 7, 480, 668-604

VALUE OF FARM PRODUCTS.

Table 525.—Estimated value of farm products, 1879-1922, based on prices at the face

	**********			- on prices a	o one janin.
	Total, gross (to be read as	Crops		Animals and ann	nal products.
Year.	index numbers).	Value.	Percentage of total.	Value	Percentage of total
1879 (census) 1889 (census) 1898 1898 1899 (census) 1900 1901 1902 1903 1904 1905 1906 1907 1909 (census) 1910 1912 1914 1915 1914 1915 1916 1917 1918 1919 1920 1920	\$2, 213, 000, 000 2, 460, 000, 000 3, 961, 000, 000 4, 339, 000, 000 4, 339, 000, 000 5, 501, 000, 000 5, 505, 000, 000 5, 587, 000, 000 6, 122, 000, 000 6, 764, 000, 000 7, 488, 000, 000 7, 581, 000, 000 8, 519, 000, 000 9, 337, 000, 000 9, 343, 000, 000 9, 851, 000, 000 9, 855, 000, 000 10, 775, 000, 000 13, 406, 000, 000 13, 406, 000, 000 22, 480, 000, 000 18, 328, 000, 000 18, 328, 000, 000 18, 328, 000, 000 19, 331, 000, 000 22, 480, 000, 000 13, 328, 000, 000 14, 310, 000, 000 14, 310, 000, 000 14, 310, 000, 000	\$2,519,000,000 2,760,000,000 3,192,000,000 3,385,000,000 3,772,000,000 3,772,000,000 4,263,000,000 4,263,000,000 4,263,000,000 5,098,000,000 5,487,000,000 5,487,000,000 5,562,000,000 6,112,000,000 6,112,000,000 6,112,000,000 13,479,000,000 13,479,000,000 13,479,000,000 14,231,000,000 15,423,000,000 16,934,000,000 16,934,000,000 16,934,000,000 16,934,000,000 16,934,000,000 16,934,000,000 16,934,000,000 16,934,000,000 16,934,000,000 16,934,000,000	63. 6 63. 6 63. 6 63. 7 63. 8 64. 0 63. 0 63. 6 64. 1 60. 7 63. 7 63. 8 64. 1 62. 5 62. 3 61. 8 64. 1 67. 5 69. 7 63. 8 64. 1 65. 0	\$1,442,000,000 1,579,000 000 1,718,000,000 1,917,000,000 2,016,000,000 2,116,000,000 2,116,000,000 2,12,000,000 2,792,000,000 2,792,000,000 3,551,000,000 3,551,000,000 3,771,000,000 3,783,000,000 4,332,000,000 4,332,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,832,000,000 5,838,000,000 5,938,000,000	

CROP VALUE PER ACRE.

Table 526.— Yearly value per acre of 10 crops combined.

[Corn, wheat, oats, barley, rye, buckwheat, potatoes, all hay, tobacco, and cotton, which comprise nearly 90 per cent of the area in all field crops, the average value of which closely approximates the value per acre of the aggregate of all crops]

1866	\$14. 17 15. 09 14. 17 14. 67 15. 40 15. 74 14. 86 14. 19	1881 1882 1883 1884 1885 1886 1887	12. 93 10. 93 9. 95 9. 72 9. 41 10. 14 10. 30	1896 1897 1898 1899 1900 1901 1901 1902 1903	9. 13 10. 31 11. 43 12. 07	1911 1912 1913 1911 1915 1916 1917	16. 09 16. 49 16 44 17. 18 22. 58
1872 1873	14. 86 14. 19	1887 1888	10.14 10.30	1902	12.07 12.62	1916 1917 1918	22, 58 33, 27 33, 73
1874 1875 1876 1877	13. 25 12. 20 10. 80 12. 00	1889	8. 99 11. 03 11. 76 10. 10	1904 1905 1906 1907	13. 28 13. 46	1919 1920 1921	35. 74 23. 26 14 45

Table 527.—Aggregate crop acreages, by States, 1920-1922.

[The following tabulation gives the estimated total acreage of 19 crops—corn, wheat, oats, barley, rye, buckwheat, potatoes, sweet potatoes, tobacco, flax, rice, all hay, cotton, peanuts, kafirs, beans, broom corn, hops, and cranbernes [

	Acreage of c	rops named	ın headıng	Per cent	Total acreage	ofall crops (theoretical)
State.	1920	1921	1922	acreage in specified crops.1	1920	1921	1922
Maine New Hampshire Vermont Massachusetts Rhode Island	1,000 acres	1,000 acres.	1,000 acres.	Per cent.	1,000 acres.	1,000 acres.	1,000 acres
	1,536	1,571	1,573	96	1,600	1,636	1,639
	520	520	520	94	553	553	553
	1,142	1,122	1,139	93	1,228	1,206	1,225
	563	564	576	86	655	656	670
	64	64	64	84	76	76	76
Connecticut New York New Jersey Pennsylvania Delaware	475	475	479	88	540	540	544
	8,091	8, 073	8,116	91	8,891	8,871	8,920
	882	904	907	86	1,026	1,051	1,055
	7,819	7, 973	8,031	97	8,061	8,220	8,279
	402	408	409	89	452	438	460
Maryland Virginia West Virginia North Carolina South Carolina	1,832	1, 803	1,807	91	2,013	1,981	1, 986
	4,535	4, 467	4,549	93	4,876	4,803	4, 891
	1,885	1, 888	1,927	95	1,984	1,987	2, 028
	6,477	6, 240	6,632	94	6,890	6,638	7, 055
	5,821	5, 692	5,429	92	6,327	6,187	5, 901
Georgia. Florida. Ohio. Indiana Illinois.	10, 855	10, 499	9,631	94	11,548	11,169	10, 246
	1, 162	1, 147	1,179	89	1,306	1,289	1, 325
	11, 453	11, 350	11,581	97	11,807	11,701	11, 939
	11, 474	11, 491	11,249	96	11,952	11,970	11, 718
	20, 069	20, 256	20,183	97	20,690	20,882	20, 807
Michigan	8, 637	8,604	9,036	93	9, 287	9,252	9,716
Wiscorum	9, 530	9,644	9,679	90	10, 589	10,716	10,754
Minnesota	15, 713	16,665	16,980	96	16, 368	17,359	17,688
Iowa	20, 755	21,058	21,055	97	21, 397	21,709	21,706
Missouri	15, 194	15,034	14,385	96	15, 827	15,661	14,984
North Dakota South Dakota Nebraska Kansas Kentucky	14,918 18,041 21,373	18, 537 15, 516 18, 263 21, 076 5, 706	18,667 15,631 18,234 21,154 5,868	96 98 97 93 95	18, 885 15, 222 18, 599 22, 982 6, 255	19,309 15,833 18,828 22,662 6,006	19, 445 15, 950 18, 798 22, 746 6, 177
Tennessee Alabama Mississippi Louisiana Texas	7,989 6,438 4,135	6, 458 7, 964 6, 561 3, 856 24, 324	6,678 7,929 6,784 3,865 24,025	91 93 96 91 92	7,333 8,590 6,706 4,544 25,896	7,097 8,563 6,838 4,237 26,439	7,338 8,526 7,067 4,247 26,114
Oklahoma Arkansas Montana Wyoming Colorado	6,782 5,831 1,347	13, 849 6, 392 5, 567 1, 442 5, 332	14, 285 6, 517 5, 631 1, 468 5, 318	93 93 87 90 85	14,772 7,292 6,702 1,497 6,113	11, 891 6, 873 6, 399 1, 602 6, 273	15,360 7,008 6,472 1,631 6,256
New Mexico	495	1,089	769	78	1,367	1,396	986
Arizona		430	453	85	582	506	533
Utah		1,018	1,078	88	1,128	1,157	1,225
Nevada		391	396	98	388	399	404
Idaho	. 3,897	2,691	2,706	91	2,940	2,957	2,974
Washington		4,026	3,868	86	4,531	4,681	4,498
Oregon		2,812	2,800	80	3,481	3,515	3,500
California ²		5,078	5,289	75	7,407	6,771	7,052
United States	. 345,089	345, 893	346, 529	93.8	369, 155	369,803	370,472

Based upon census proportions in 1919.
 Includes cotton acreage in Lower California (125,000 acres in 1920, 85,000 acres in 1921, and 122,000 acres in 1922).

AGGREGATE CROP-VALUE COMPARISONS.

Table 528.—Value of 22 crops and hypothetical value of all crops, with rank.

The following tabulation gives the estimated total value of 22 crops—corn, wheat, oats, barley, rye, buckwheat, flavseed, rice, potatoes, sweet potatoes, all hay, tobacco, lint cotton, beans, broom corn, grain sorghums, hops, oranges, clover seed, peanuts, cranberries, and apples—in the United States, by States, in 1919 (census) 1921 and 1922; the value of all crops in 1919 (census) and the hypothetical value of all crops in several years, based upon ratio of the 22 crops to all crops in census year; also rank of States. The slight differences in the total value of crops in the United States between Tables 525 and 528 are due to different methods of estimating. In Table 528, where each State is shown separately, a more detailed method is used than is practicable in Table 525.

		Ratio	Va	lue 22 cro	ps.	Hypothe	ical value	all crops.	Ra	nk.
State.	Value all crops, 1919 census.1	value 22 crops to all crops in census	1	1921	1922	1916-1920 average	1921	1922	19	
		1919.							crops.	All crops.
Me	1,000 dols. 100, 152 23,510 48,000 53,701 5,340	P. ct. 92 79 77 68 69	18,479 36,835 36,601	31,474 33,705	1,000 dols. 36,021 15,310 32,282 30,019 2,603	1,000 dols. 69,400 23,028 47,727 54,894 5,949	1,000 dols 67, 161 22, 542 40, 875 49, 566 4, 061	39,153 19,386	37 44 38 39 48	39 44 38 37 48
Conn N.Y. N.J. Pa. Del.	44,473 417,047 87,484 409,969 23,059	81 77 70 86	36,006 321,598 61,273 350,991 16,516	38,691 209,804 37,234 195,516	1	47, 883 397, 338		36,516 276,857 55,759 252,708	40 13 36 12 46	40 9 36 13 46
Md Va W. Va N C S C	110, 166 292, 824 96, 537 503, 229 437, 122	80 85 81 87 82	88,066 247,463 78,143 438,892 360,025	113,267 46,999	51,670 145,818 53,747 298,094 133,437	102,342 259,267 105,164 402,171 337,088	48, 421 133, 255 58, 023 252, 376 143, 962	64,588 171,551 66,354 342,637 162,728	25 33	35 25 34 5 26
Ga. Fla. Ohio. Ind.	540, 614 80, 257 607, 038 497, 230 864, 738	80 62 87 90 92	430,270 49,521 526,943 449,079 797,893	137,997 31,225 184,682 149,417 272,909	169,787 43,531 244,594 203,370 386,017		296, 640	419,584	16 3	23 33 8 19 3
Mich	404,015 445,348 506,020 890,391 559,048	82 81 89 92 89	329,651 360,404 450,327 820,126 496,261	150,622 178,625 186,775 235,130 172,813	175, 596 218, 104 253, 460 418, 404 245, 855	392, 954 440, 270 694, 689 433, 892		284,787 454,787 276,242	8	22 11 7 2 10
N. Dak S. Dak Nebr Kans Ky	301,783 311,007 519,730 588,923 347,339	92 93 95 91 89	278,315 288,376 491,338 536,408 310,224	135,273 106,581 166,977 206,302 133,759	208, 064 168, 711 246, 866 263, 623 195, 204	279, 734 314, 711 433, 214 466, 071 324, 894				18 24 12 6 20
Tenn Ala Miss La Tex	318,285 304,349 336,207 206,182 1,071,542	83 81 83 71 83	263, 797 246, 271 278, 539 147, 290 885, 955	128,612 119,307 121,170 72,826 352,564	180,399 186,650 187,836 98,808 594,619					21 16 17 27 1
Okla Ark Mont Wyo Colo	550,085 340,813 69,975 30,271 181,065	87 83 86 88 76	479,314 283,175 60,058 26,528 137,660	145,315 125,524 64,509 18,759 65,852	207,668 193,450 75,421 20,935 80,518	370,436 288,790 106,280 44,940 157,249	167,029 151,234 75,010 21,317 86,647	238, 699 233, 072 87, 699 23, 790 105, 945	15 18 30 43 29	14 15 31 43 29
N MexAriz. Utah Nev	40,620 42,481 58,067 13,980	77 84 70 96	31,093 35,478 40,901 13,439	21,577 17,299 18,473 7,731	13,916 22,668 23,110 10,269	40,791 35,298 53,110 15,847	28, 022 20, 594 26, 390 8, 053	18,073 26,986 33,014 10,697	45 42 41 47	45 42 41 47
Idaho	126, 495 227, 212 131, 885 589, 757	88 82 75 54	111,940 185,667 99,095 315,091	61,520 131,627 66,013 174,991	64,810 110,613 66,603 226,170	107, 974 185, 739 122, 127 520, 411	69,909 160,521 88,017 324,057	73,648 134,894 88,804 418,833	32 27 31 10	32 28 30 4
United States.	14,755,365	84 3	12,442,977	5,335,984	7, 114, 347	12,522,239	6,410,229	8,501,395		

¹ Does not include nursery or greenhouse products or forest products of the farm.

WHEN CROPS ARE HARVESTED.

The tabulation below shows when crops are harvested in the United States by showing what poportion of the crop is usually harvested each month. Two tactors tend to modify these percentages in any given year. In some years harvests come somewhat earlier or later than normal. Also, if the crop is larger than usual in its northern section and smaller than usual in its southern section, or vice versa, the effect is to modify the percentage of the total crop which is harvested in a particular month. However, it is not likely that such changes from normal are often so marked throughout the United States as to alter greatly the averages here given

Table 529.—Percentage of crops of United States harvested monthly.

Crop.	Jan- uary- April.	May.	June.	July.	Au- gust.	Sep- tem- ber.	Octo- ber.	No- vem- ber.	De- cem- ber.
Barley Buckwheat Corn Oats Rice	- · · · · · · · · · · · · · · · · · · ·	1.0	P. ct. 8.2 7.9	P. ct. 51. 6 .8 .1 52. 9	P. ct. 33.9 6.7 1.5 34.2 15.3	P. ct. 4.9 64.9 15.8 3.8 33.0	P. ct. 0. 2 26. 7 28. 3 2 33. 8	P. ct. 0.9 43.3	P ct
Rye Wheat A pples Blackberries Cantaloupes		.5	11.3 22.0 2.5 15.4 8.7	71. 5 42. 3 7. 2 47. 6 20. 9	16.3 28.4 12.5 27.1 36.7	.7 6.5 27.7 6.2 28.6	.3 45.5 1.7 3.0	4.5	
Cranberries Grapes Peaches Pears Raspberries		1.6 .1 .5	7.9 4 16.5	3. 5 23. 4 7. 5 58. 4	7.3 15.2 34.3 25.1 21.7	67. 1 48. 0 26. 9 14. 4 2. 8	25. 6 29. 8 5 9 21. 5	3. 1	
Strawberries		23. 6 . 4 . 7 2. 3	49.4 5.2 3.4 4.7	18.3 27.3 .8 8.4 6.8	3. 1 39. 8 13. 8 22. 1 9. 1	.6 24.1 54.9 43.4 18.1	3. 2 26. 9 20. 4 40. 4	3.6 1.5 11.0	
Onions	.2 .1 3.1	4. 4 1. 3 1. 3 2. 2	8.7 3.3 .1 3.8 15.3	12.6 6.8 1.7 11.4 47.8	17. 2 12. 1 6. 2 29. 2 21. 8	32. 5 33. 7 21. 5 39. 7 10. 7	21.9 39.2 49.1 9.7 1.9	1.0 3.3 20.6 1.5	
AlfalfaAlfalfa seedBluegrass seed	.9	5. 3	24. 1 . 6 43. 0 . 2	28. 0 10. 7 23. 6 3. 4	21.5 30.5 16.4 21.2	16. 4 45. 1 11. 4 54. 4	3.7 13.0 .5 20.0	.1	
Millet	2	.6	1.7 7.1 .8 4.1	16. 4 73. 6 36. 1 28. 9	40.5 17.8 54.0 36.5	37. 2 1. 5 9. 1 26. 4			
Broom corn Cotton Flaxseed Hops	4		2.8	9.7 1.4 3.0 1.1	29. 0 11. 5 31. 5 27. 6	43. 1 31. 6 56. 5 63. 6		1.0 16.0	4.1
Peanuts Sorghum (sirup) Sugar beets Tobacco			.1	2.1 1.4 1.0 7.5	12.5 13 3 3.8 27.1	39. 3 51. 9 18. 5 52. 7	37. 7 30. 9 56. 3 12. 1	8.0 2.4 20.2	.:

PLANTING DATES.

Table 530.—Mean dates when planting of specified crops begins, becomes general, and ends.

1 YBUE 000				Tog of aper			vecomes ;	generai, a	na enas.
		('orn.			Oats		Sı	oring whea	t.
State.	Begin- ning	General	Ending.	Begin- ning	General	Ending.	Begin- ning	General.	Ending.
Me N H Vt Mass R. I	May 17 May 14 May 17 May 10	May 26 May 24 May 25 May 20 May 19	June 6 June 4 do May 31 June 11	May 2 May 4 Apr. 29 Apr. 10 Apr. 13	May 13 May 12 May 9 Apr 27 Apr. 25	June 1 May 27 May 22 May 6 May 8	Apr. 28	May 8	May 18
Conn N. Y N. J Pa	May 12 May 6 May 4	May 22 May 21 May 14 May 15	June 4 June 3 May 31 May 29	Apr. 9 Apr. 19 Apr. 1 Apr. 6	Apr. 22 Apr. 30 Apr. 12 Apr. 9	May 18 Apr. 24 May 2	Apr 14 Apr 3	Apr. 28	May 12 May 2
Del Md Va W Va	Apr. 28 Apr. 26 Apr. 20 Apr. 26	May 6 May 8 May 2 May 10	May 20 May 31 May 21 May 27	Mar. 20 Mar. 15 Mar 26	Apr 1 Mar. 28 Apr 8	Apr. 21 Apr. 13 Apr. 22			
N. C S. C Ga Fla	Mar 30 Mar 18 Mar 16 Feb 21	Apı 19 Apı 5 Apr 4 Mar 11	May 24 May 15 May 7 Apr. 2	Feb. 21 Feb. 6	Mar. 7 Feb. 27	Mar 23 Mar 16	Jan 29	Feb. 21	Mar. 12
OhioIndIllMichWis	May 1 do Apr. 30 May 15 May 11	May 14 do May 13 May 22 May 18	May 27 May 31 June 2 do May 28	Mar. 27 Mar. 20 Mar. 19 Apr. 20 Apr. 16	Apr 9 Apr. 4 Mar. 31 Apr 30 Apr. 24	Apr. 22 Apr. 18 Apr. 14 May 10 May 7	Mar. 22 Apr. 23 Apr. 10	Apr. 1 May 3 Apr. 20	Apr. 9 May 14 Apr. 27
Minn Iowa Mo N. Dak	May 13 May 4 Apr. 14 May 14	May 19 May 13 May 1 May 21	May 30 May 26 May 22 May 31	Apr. 19 Apr. 3 Mar. 10 Apr 24	Apr. 29 Apr. 11 Mar 25 May 5	May 9 Apr. 22 Apr. 10 May 19	Apr. 13 Mar. 29 Apr 8	Apr. 23 Apr. 6 Apr. 21	May 5 Apr. 14 May 9
S. Dak Nebr Kans	May 9 May 3 Apr 14	May 19 May 13 Apr 29	June 1 May 29 May 18	Apr. 8 Apr 2 Mar 7	Apr. 18 Apr. 12 Mar. 21	Apr. 30 Apr. 23 Apr. 3	Apr. 1 Mar. 22 Feb. 27	Apr 14 Apr. 2 Mar 13	Apr. 28 Apr. 13 Mar. 27
Ky Tenn Ala Miss	Apr. 15 Mar. 31 Mar. 12 do	May 5 Apr. 21 Apr. 5 Apr. 1	May 26 May 25 May 18 May 10	Mar. 8 Feb. 22 Jan. 31 Feb 1	Mar. 23 Mar. 11 Feb. 20 Feb. 19	Apr 11 Apr. 1 Mar. 9			
La Tex. Okla Ark	Feb. 27 do Mar. 24 Mar. 18	Mar. 22 Mar. 13 Apr. 7 Apr 6	Apr. 24 Apr. 4 Apr. 30 May 6	Jan. 27 Feb. 17 Feb. 15	Feb. 10 Mar. 4 Mar. 1	Feb. 25 Mar. 21 Mar. 18	Jan. 25	Feb. 13	Feb. 23
		Barley.			Tobacco.			Cotton.	
State.	Begin- ning	General.	Ending	Begin- ning.	General.	Ending.	Begin- ning.	General.	Ending.
Me N. H Vt Mass	May 12 May 16 May 12 May 11	May 26 May 21 May 22 do	June 11 June 4 June 8 June 4	May 28	June 12	June 26			
Conn N. Y Pa	Apr. 23 Apr. 8	Apr. 30 Apr. 20	May 16 May 2	May 26 June 1 May 30	June 10 June 15 June 12	June 24 June 30 June 27			
Md Va W. Va				May 23 May 16 May 23	June 8 June 5 do	June 23 June 20 June 22			
N. C. S. C. Ga. Fla.				Apr. 29 Apr. 10 Apr. 19 Mar. 25	May 14 Apr. 23 May 4 Apr. 20	May 31 May 3 May 23 May 15	Apr. 19 Apr 5 do Mar. 16	May 1 Apr. 22 Apr. 21 Mar. 28	May 16 May 12 do Apr. 20
Ohio Ind Iif	Mar. 28 Mar. 27	Apr. 8 Apr. 7	Apr. 21 Apr. 19	May 28 May 25 May 23	June 11 June 9 May 28	June 25 June 26 Tune 14			

PLANTING DATES-Continued.

Table 530.—Mean dates when planting of specified crops begins, becomes general, and ends—Continued.

!		Barley			Tobacco.		Cotton			
State.	Domn	Ending	Begin- ning.	General.	Ending.	Begin- ning.	General.	Ending.		
Minn Iowa Mo N. Dak S. Dak	Mar. 15 May 4 Apr. 14	May 10 Apr. 14 Apr. 3 May 14 Apr. 26	May 20 Apr. 22 Apr. 15 May 29 May 10	May 27	June 7		Apr. 25	May 1	May 14	
Nebr Kans Ky Tenn Ala.	Mar. 18		Apr. 28 Apr. 13	May 18 May 10	June 1 May 22	June 17 June 5	Арг. 21 Арг. 8	May 2 Apr. 20	May 16 May 11	
Miss La Tex Okla Ark	Feb. 26	Mar. 17	Mar. 31				Apr. 5 Mar. 29 do do Apr. 18 Apr. 15	Apr. 21 do Apr. 13 May 2 Apr. 28	May 7 May 2 May 24 May 13	

SEED USED PER ACRE.

In consideration of supplies and distribution of crops, as well as for other purposes, the average quantity per acre used for seed is frequently a question of interest. A year ago county crop correspondents of the Bureau of Statistics were requested to report the quantity of various seeds usually sown or planted per acre; the returns were tabulated and show the following averages for the United States; more or less variation from the average prevails in different States, and, therefore, in addition to the averages of returns, an estimate of the range of the bulk of these seedings (not the extreme range) is also given.

Table 531.—Seed used per acre, approximate averages for the United States.

Crop.	Average of reports.	Estimated bulk of pla	
Alfalfa, broadcastpounds	18.3	15 to	20
Alfalfa, drilleddo	14.8	12 to	18
Barleybushels	1.84	1.5 to	2.0
Beans, field, smalldo	.76	.5 to	1.0
Beans, field, largedo	1.29	1.0 to	1.5
Beets, common (not sugar)pounds.	6.3	5.5 to	7. 5
Blue grassbushels	1.07	.75 to	1. 25
Broom corn pounds.	6.0	3 10	7
Buckwheat bushels.	. 98	. 75 to	1, 25
Cabbage plantsnumber	5,658.0	5,000 to	7,000
Clover, alsike pounds.	8.7	8 to	12
Clover Japando	9.9	9 to	15
Clover, mammothdodo	10.4	8 to	12
Clover, red, alonedo	10.7	8 to	12
Clover, red, on graindo	9.8	8 to	12
Clover, crimsondo	12.1	10 to	15
Corn, for graindo	9.5	6 10	12
Corn, fodder, for silagedo	26.0	15 to	$\tilde{35}$
Cotton bushels	. 96	.9 to	ĭ 1
Cowness for forege	1.31	1.0 to	1.5
Cowpeas, for forage	63	40 to	. 65
Cowpeas, for seeddodo	70	.50 to	75
Field peas, smalldo		.75 to	1, 25
Field peas, largedo	1.17	1.0 to	1.5
Flaxseed peas, large pounds	29. 2	25 to	30
Oatsbushels.	2, 37	2.0 to	2 5
Orchard grass	12.6	10 to	15
Peanuts bushels	1.02	1.0 to	1.1
Potatoes. do	8.6	7 to	12
Rice. do	1.98	1.5 to	2,5
Rye, for grain		1.25 to	1.75
Rye, for foragedo.	1.82	1. 25 to	2.0
Soy beans, drilled do do do do do do do do do do do do do	.79	.50 to	1.00
Soy beans, broadcastdo	1.37	1.00 to	1.50
Sugar beets pounds.	1.01		18
Sugar petro - points	13.1		
Sweet potato plantsnumber.	6,605.0	6,000 to	7,000 12
Timothy pounds.	9.4	8 to	12
Tobacco plantsnumber Wheat	4, 762. 0	1 05 4.	
Wheat	, , , , , ,	, , ,,, +,	. 78

COMPOSITE CROP YIELDS.

Table 532.—Composite numbers of all crop yields.

The figures below are obtained in the following manner: For each State the average yield per acre of each crop (as coin, wheat, cotton, etc.) is reduced to its 10-year average yield per acre, these percentages are combined into a composite or general average, viz, the figures shown — The relative importance of each crop is taken into consideration in making the composite averages

State and division.	1918	1919	1920	1921	1922	State and division.	1918	1919	1920	1921	1922
Maine	97 98	106 105 104 103 101	90 104 104 107 98	95 94 87 93 95	84 104 98 93 88	North Dakota South Dakota Nebraska Kansas.	108 139 78 82	69 89 114 111	91 104 137 129	82 87 104 102	127 103 89 101
Connecticut New York New Jersey Pennsylvania	102 100	100 107 97 105	104 110 121 109	102 84 92 94	92 109 118 105	N. C. west of Mississippi River	101.1		113.0	95.6	103.3
North Atlantic	101. 2	104. 8	107.9	90.3	104. 1	Kentucky Tennessee Alabama	100 96 101	95 96 82	106 105 87	93 97 82	100 92 93
Delaware	100 105 99 106 98	91 98 102 102 92 94	111 112 109 109 107 99	88 90 86 91 85 74	107 105 105 101 93 68	Mississippi Louisiana Texas Oklahoma Arkansas	102 85 65 66 76	92 87 124 139 98	90 97 114 140 107	86 95 92 105 92	96 97 86 77 92
GeorgiaFlorida	97 99	85 92	88 96	73 90	67 110	South Central Montana	83.6		107. 4 83	92.9	89.9
South Atlantic	100.3	93.1	100.4	80.8	84. 4	Wyoming	105 96	40 65 90	113 105	86 99	100 94 87
Ohio. Indiana. Illinois. Michigan. Wisconsin.	110	105 96 97 100 107	107 106 101 109 112	89 88 94 85 89	97 98 102 107 110	New Mexico Arizona Utah Nevada Idaho Washington	96 94 94 92 89 75	104 112 78 88 82 94	107 97 103 90 98 92	96 110 108 100 98 108	59 94 99 108 95 79
N.C east of Mis- sissippi River	106. 0	100.6	106. 2	89.8	102. 4	Oregon California	80 88	98 99	103 96	104 95	88 105
Minnesota Iowa	123 104	89 107	97 113	84 99	98 110	Far Western	85 3	88. 5	96.9	98.3	95. 5
Missouri	84	106	114	102	101	United States	97. 6	99.8	106. 9	91.7	96. 7

COMPOSITE CROP CONDITIONS, MONTHLY.

The character of seasons in past years for crops in the United States is indicated in the accompanying table of the composite condition of all important crops, monthly, during the growing period, 100 representing an average condition.

Table 533.—Composite condition of growing crops, monthly, 1910-1921.

Year.	June 1.	July 1.	Aug. 1.	Sept. 1.	Oct. 1	Nov.1.	Year.	June 1.	July 1	Aug. 1.	Sept 1.	Oct. 1.	Nov.1.
1910 1911 1912 1913 1914 1915	97. 2 99. 1 98. 9 102. 2 102. 3 97. 7	89. 3 98. 8 98. 2 101. 5 102. 3 101. 6	93. 5 85. 4 100. 3 95. 5 98. 0 103. 9 97. 4	97. 2 84. 8 104. 1 89 9 97. 9 105. 5 94. 6	99. 6 86. 7 110. 0 90. 3 99. 4 106. 9 94. 5	99 3 90.6 107.7 93 3 102.3 108.0 95 1	1917 1918 1919 1920 1921 1922	94. 2 102. 9 104. 7 94. 8 93. 2 99. 2	97. 8 101. 6 102. 3 99. 7 96. 4 97. 9	99. 8 98. 9 97. 8 105 4 93. 0 101 2	102. 5 94. 1 98. 8 107. 0 92. 9 98. 8	102 4 96.6 98.7 106.9 91.1 98.7	102. 0 97. 6 99. 8 106. 9 91. 7 96. 7

WEIGHTS PER BUSHEL.

A bushel is regarded as a definite weight rather than a cubic measure in the estimates of production and prices made by the Bureau of Markets and Crop Estimates. The weights which are regarded as a bushel for various products are as follows: Wheat, 60 pounds; corn, 55 pounds if shelled, 70 pounds if in car; cats, 32 pounds; batley, 48 pounds; rye, 56 pounds, butekwheat. 18 pounds; white (first) potatoes, 60 pounds; sweet potatoes, 55 pounds; applies, 48 pounds, pears, 48 pounds, beaches, 48 pounds; walnuts and luckory nuts, 50 pounds; beans (dry), 60 pounds, onions, 57 pounds, turnips, 55 pounds; clover seed, 60 pounds, alfalfa seed, 60 pounds, turnips, as founds; clover seed, 60 pounds, and the corn, 56 pounds. Estimates of yields and prices in tons are always on the basis of 2,000 pounds

Table 534.—Estimated average weight in pounds per measured bushel of wheat, oats, and barley, of the yearly crops of the United States.

Year.	Wheat.	Oats	Barley.	Year.	Wheat.	Oats.	Barley
1902. 1903. 1904. 1905. 1906. 1907. 1908. 1909. 1910. 1911.	Pounds. 57 3 57.4 55 5 57.5 58 3 58 2 58.3 57 9 58.5 57 8 58.3	Pounds 31.0 29.7 31.5 32.7 32.0 29.4 29.8 32.7 32.7 32.7 31.1	#6.9 46.8	1913 1914 1915 1915 1916 1917 1918 1919 1920 1921 1922	Pounds. 58.7 58.0 57.9 57.1 58.5 58.8 56.3 57.6 57.7	Pounds. 32. 1 31. 5 33. 0 31. 2 33. 1 33. 2 31. 1 23. 3 32. 0	Pounds. 46 5 46 2 47 4 45.2 46 6 40.9 45.2 46 0 44 4

MONTHLY SALES FROM FARMS.

For every \$100 worth of product sold from the farm, about \$12.80 are sold in October, the month of heaviest total sales; \$11.70 in November, \$10.50 in December, and \$10.10 in September—in the four months, \$44.90. Smallest sales are in May and June, when the amount in each month is \$6.10 of the year's \$100. Sales of crops alone are more concentrated in the fall months, for every \$100 worth of crops sold in a year, \$15.50 worth are sold in October, \$15.70 in November, \$12.50 in December, 300 in October, \$15.60 in December, \$100 in September, in the four months, \$56.20. Smallest sales (\$3.10) are in June.

Sales of live-stock products are fairly evenly distributed through the year. For every \$100 worth of live-stock products sold in a year \$9.00 are sold in June, the highest proportion in any month, and \$7.30 in January, the lowest.

These estimates are based upon reports made by concernments.

These estimates are based upon reports made by crop correspondents of the Bureau of Crop Estimates of their actual sales in 1914, modified when necessary to make the figures typical of sales in recent years. More than 5,000 reports were tabulated. As the correspondents are representative farmers, the averages of their reports in the Umited States and in the larger States are probably nearly the same as the averages for all the farmers in the States. Details of monthly sales are given in tabulation below.

Table 535.—Monthly percentages of year's receipts from sales by farmers.

[Monthly rate of sales from farms, averages for recent years, estimates based upon reports of actual monthly sales made by crop correspondents of Bureau of Crop Estimates.]

FROM SALES OF ALL KINDS.

Division.	January.	February.	March.	April.	May.	June	July.	August.	September.	October.	November.	December.	Year.
North Atlantic	7.0 8.4 8.4 10 0 8.6 6.4 8.5	6 3 5.8 7.0 8 5 6.0 4.2 6 8	7 6 5.8 9.2 8.1 5.9 5.5 7 4	7 9 5 8 7 7 8.0 5 0 7.4 6.9	7,6	6.9 4.8 5.7 4.0 6.1	7. ± 5 9 7 7 6. 2 5. 6 4 9 6. 4	6.8	9.0 9.0 10.7 11 9	11 1 15.6 8.1 10.7 16 0 20.0 12 6	10.8 14 1 8.9 10.1 14.9 16.0 11 7	8.5 14.5 9.8 10.2 12.2 8.4 10.5	100.0 100.0 100.0 100.0 100.0 100.0 100.0

FROM SALES OF CROPS.

North Atlantic South Atlantic	8.7	5.0	5.5 4 3	5. 1 4. 5	2.7	2.7	5 1	5.0	8. 5	15 3	19.0	19 2	100.0 100 0
North Central east of Miss. R North Central west of Miss R	8 1	63	5.8	4.6	4.4	2.6	7.1	$\frac{12}{7} \frac{9}{3}$	15 0	13 6	13.2	12 0	100 0 100.0
South Central Far Western		$\frac{4.2}{3.2}$	4 4	3 1	$\frac{2.1}{3.0}$	$\frac{2}{2}$, $\frac{3}{6}$	5.8	4.3	12.3	19.3	19.1	15.2	100 0 100 0
United States	7 4	5.2	5.3	4.6		3.1	6 5	7. 3	12.4	15 5	15.7	12.6	100 0

MONTHLY SALES FROM FARMS-Continued.

Table 535.—Monthly percentages of year's receipts from sales by farmers—Continued.

FROM SALES OF LIVE STOCK.

Division.	January	February	March	April.	May	June	July.	August	September.	October.	November.	December.	Year.
North Atlantic. South Atlantic. North Central east of Miss. R. Notth Central west of Miss. R. South Central Far Western. United States.	7 5 8 0 9.8 12 6 9 9 5.9 10.3	5 6 6.8 10 3 8 6	9.6 7.7 10 9 10 1 8.0 5.0 9.2	10.8 6 1 7 9 7.9 7 1 11 3 8.2	10 6 5.9 7 0 6.0 4.2 5 3 6.2	6.3 9.5 6.9 5 2	5.9 6 1 4.9	5. 6 5. 4 5. 5 6. 5 2. 4 5	$\frac{7.7}{12.5}$	9.6 21 4 7.9 9.3 13 6 21 9 11.8	12.7 8.4 9.4 8.3 11.1 14.6 9.8	7.4 8.9 12 2 9.5 9.4 6.0 9.5	100.0 100.0 100.0 100.0 100.0

FROM SALES OF LIVE-STOCK PRODUCTS.

INDEX NUMBERS OF CROP AND MEAT-ANIMAL PRICES.

Table 536.—Index numbers of crop and meat-animal prices, monthly and average. 1908-1921.

The trend of prices to farmers for important crops is indicated in the following figures; the base 100 is the average price December 1 in the 43 years 1866–1908 of wheat, corn, oats, barley, rye, buckwheat, potatoes, hay, flax, and cotton:

CROPS

Year.	Jan. 1.	Feb.	Mar. 1.	Apr. 1.	May 1.	une 1.	July 1.	Aug.	Sept.	Oct. 1.	Nov. 1.	Dec. 1.	Yearly aver 1
1908 1909 1910 1911	120. 1 117. 8 134. 1 118. 6 133. 9	122. 2 120. 4 138. 5 119. 8 140. 2	124. 3 126. 3 139. 9 117. 9 144. 7	125. 7 130. 6 138. 8 118. 0 153. 4	127. 5 139. 6 133. 5 122. 2 166. 3	136. 6 146. 5 133 5 127. 7 168. 3	135. 3 149. 5 133. 1 136. 3 160. 1	135. 5 142. 3 137. 1 148. 2 148. 0	130. 8 132. 9 137. 0 141. 6 137. 6	127. 2 130. 5 129. 8 138. 0 128. 6	119.6 129.3 122.2 135.6 118.3	117. 4 127. 7 118. 4 133. 1 110. 3	125. 1 130. 9 130. 6 131. 8 134. 6
1913	110. 9	112. 6	113. 3	113. 6	116 2	121. 2	122. 9	125. 4	136. 3	139 1	133 9	132.7	126. 7
1914	132. 5	132. 1	133 8	134. 2	135. 9	138. 8	137. 7	137. 6	141. 3	136. 4	127. 4	122.8	132. 9
1915	126. 7	140. 5	144. 0	144. 5	150. 0	147. 3	139. 1	138 9	132. 5	128 2	124 4	120.4	132. 1
1916	129. 0	139. 9	138. 6	140. 2	143. 3	145. 8	144. 8	147. 7	161. 5	163. 6	178. 8	187.9	158. 3
1917	183. 6	195. 6	206 5	225. 2	280. 6	291. 3	289. 9	307. 8	279. 6	277. 0	261. 3	252.3	254. 5
1918	264. 1	271. 6	288 8	288 6	281. 8	271. 9	272. 9	280. 6	293. 3	289. 3	269. 5	265. 2	277. 4
1919	272 4	259. 9	257. 1	271, 2	293. 7	307. 2	310. 2	329. 0	317. 7	290. 0	279. 4	282. 4	288. 4
1920	296. 7	311. 0	314. 3	334, 1	362. 1	380. 4	374. 0	329. 8	294. 7	248. 7	201. 1	165. 5	271. 9
1921	158. 5	151. 4	147. 5	139, 3	128. 7	134. 6	130. 6	133. 8	134. 5	137. 3	121 4	120. 6	134. 7
1922	120. 5	123. 6	138. 1	140, 6	144. 5	148. 4	146. 1	145. 6	138. 2	135. 5	142 3	150. 0	139. 2

MEAT ANIMALS.2

1910	6. 67	6. 71	7.39	7. 74	7 37	7. 29	6. 98	6. 67	6. 92	6.80	6 47	6. 21	6. 90
1911	6. 40	6. 19	6.09	5 80	5. 54	5. 45	5. 52	5. 87	5 87	5.58	5. 44	5. 37	5. 77
1912	5. 44	5. 54	5.69	6. 30	6. 39	6. 27	6. 23	6. 56	6. 74	6.86	6. 45	6. 42	6. 25
1913	6. 40	6. 70	7.08	7. 35	7. 08	7 19	7. 25	7. 20	7. 15	7.14	6 94	6. 85	7. 00
1914	7. 05	7. 27	7.37	7. 40	7. 29	7. 22	7. 41	7. 63	7. 58	7.14	6. 80	6. 61	7. 19
1915	6. 57	6. 46	6. 46	6. 59	6. 80	6. 85	6. 83	6. 74	6.77	6. 96	6. 45	6. 25	6. 63
1916	6. 46	6. 94	7. 53	7. 85	7. 98	8. 00	8. 04	8. 05	8 38	8. 04	8. 09	8. 15	7. 77
1917	8. 53	9. 42	10. 70	11. 71	11. 84	11. 72	11. 47	11. 84	12.79	13. 04	12. 47	12. 74	11. 56
1918	12. 59	12. 65	13. 06	13. 55	13. 83	13. 62	13. 68	14. 21	14.50	13. 79	13. 37	13. 40	13. 49
1919	13. 46	13. 51	14. 06	15. 01	15. 34	14. 98	15 61	15. 56	13. 44	12. 22	11. 88	11. 54	13. 59
1920	12. 14	12. 43	12. 52	12. 72	12. 41	12. 31	12.40	12. 12	12. 22	11. 67	10. 34	8 48	11. 69
1921	8. 42	8. 24	8. 67	7. 89	7. 66	7. 31	7.65	7. 94	7. 11	6. 88	6 47	6. 37	7. 49
1922	6. 67	7. 56	8. 19	8. 10	8 29	8. 37	8.34	7. 87	7. 69	7. 75	7. 36	7. 28	7. 71

PRICES OF ARTICLES BOUGHT BY FARMERS.

Table 537.—Prices of articles bought by farmers, 1909-1921, and purchasing power of 1 acre of crops.

Article	1909	1914	1920	1921	1922	Price	per ce 1914.	ent of	լոււս	asing cre of deep to of	rops,
						1909	1921	1922	1909	1921	1922
Axes each Barb wire 100 pounds Barrels each Baskets do Bone meal tons	\$0.89 2.98	\$0.96 3.08 .25	\$2, 25 6, 10 . 76 . 60 65, 00	\$2.00 5.20 .51 .50 54.00	\$1.96 4.73 .58 .61 53.17	93 97	207 169 204 169	204 154 232 167	95	43 52 43 52	58 77 51
Brooms each Buggies do Buggy whips do Calico yards Churns each	.34 64.90 .404 .06 2.19	.38 70.10 426 .063 2.30	. 98 131. 00 . 85 . 227 3. 25	.78 108.00 .70 .142 3.00	. 78 102. 85 . 68 . 14 3. 35	89 93 95 95	205 154 164 225 130	205 147 160 222 146	103 99 97 97 97	43 57 54 39 68	58 80 74 53 81
Coal. ton. Coal oil gallon. Coffee. pound. Corn knives. each. Cream separators. do.	5.50 .157 .211 .27 63.10	5.80 .139 .245 .29 59.30	13.30 .25 .41 .65 102 00	11.50 .19 .32 .55 90.00	11. 28 . 18 . 33 . 56 88. 88	95 113 86 93 106	198 137 131 190 152	194 129 135 193 150	97 81 107 99 87	45 64 67 46 58	61 91 87 61 79
Dinner plates ½ dozen. Dish pans each Dung forks do Fortilizer, commercial ton Flour barrel	.55 .32 .70 22.15 6 30	.57 .34 .76 23.20 6 40	1.58 .95 1.60 44.00 12.90	1.31 .75 1.40 35 00 8.80	1.31 .76 1.44 30.08 8.07	96 94 92 95 98	230 221 184 151 137	230 224 189 130 126	96 98 100 97 94	38 40 48 58 64	51 53 62 91 94
Fruitjars dozen Gasoline gallon Gloves, cotton pair Gloves, leather do. Grindstones pound	.73	.74	1. 25 . 33 . 27 1. 85 . 05	1.16 .265 .19 1.30 .045	1.15 .24 .19 1.25 6.87	99 113	157 148	155 134	93 81	56 60	76 88
Halterseach Harness, singledo Ilarrowsdo Hatchetsdo Hats, feltdo	.85 13.50 .59 1.94	.95 15.25 .62 2.03	1. 98 32. 00 30. 00 1. 50 5. 00	1.55 25.00 25.50 1.29 3.50	1. 48 28. 67 24. 90 1 16 3 46	95	163 164 208 172	156 188 187 170	103 103 97 96	54 54 42 51	76 63 63 69
Horse blankets do Jumpers do Kitchen chairs do Lamps do		. 45 2. 40 . 83 . 80 . 52	. 93 5. 35 2. 50 2. 10 1. 10	.80 4.15 1.55 1.65	. 85 4. 05 1. 67 1. 79 . 99	91 94 93 90 96	178 173 187 206 183	189 169 201 224 190	101 98 99 102 96	50 51 47 43 48	62 70 59 53 62
Lanterns do. Lard pound Lime barrel Linseed oil gallon Lumber, I-inch 100feet	.77 .132 1.29 .79 1.95	.80 .141 1.36 .82 2.10	1. 45 . 265 3. 10 2. 21 5. 15	1.30 .16 2.65 1.22 3.55	1.35 .17 2.97 1.37 3.89	96 94 95 96 93	162 113 195 149 169	169 121 218 167 185	96 98 97 96 99	55 78 45 59 52	70 98 54 71 64
Manure spreaders each Men's suits do Milk cans, 10-gallon do Milk pails do Mowers do	13. 15 2. 40 .43 44. 30	106.70 14.00 2.45 .45 46.50	194. 00 41. 00 6. 20 1. 00 88. 00	167. 00 30. 30 5. 30 .80 78. 00	152.71 28.07 4.98 .73 77.24	105 94 98 96 95	157 216 216 178 168	143 200 203 162 166	87 98 94 96 97	56 41 41 50 53	83 59 58 73 71
Muslin. yard Nalls. 100 pounds Overalls. pair Padlocks. each Paint brushes do		.093 3.40 .89 .275	7.30	5.75 1.58 .50 1.15	.18 5.45 1.61 .48 1.25	97 98 92 98 91	194 169 178 182 213	194 160 181 175 231	95 94 100 94 101	46 52 50 49 41	61 74 65 67 51
Paint, mixed gallon Paris green pound Picks each Pincers do Pitchforks do		1.74 .30 .72 .51 .66	4.30 .64 1.50 1.10 1.45	3.35 .52 1.22 .90 1.22	3.33 .49 1.21 .98 1.23	93 97 99 96 94	193 173 169 176 185	191 163 168 192 186	99 95 93 96 98	46 51 52 50 48	62 72 70 61 63
Plows, turningdo Portland cement, 100 pounds Raincoatseach.	11.50	12.10	23. 00	20.00	22.35	95	165	185	97	54	64
Raincoats each. Rope, hemp pound. Rubber boots pair	.70 4.25 .135 3.55	. 69 4. 40 . 149 3. 75			1.08 6.86 .26 4.46	91	148 170 174 121	157 156 174 119	91 95 101 97	60 52 51 73	75 76 68 99

PRICES OF ARTICLES BOUGHT BY FARMERS-Continued.

Table 537.—Prices of articles bought by farmers, 1909–1921, and purchasing power of 1 acre of crops—Continued.

Article.	1909	1914	1920	1921	1922	Price	per co 1914.	ent of	of 1 a	Purchasing power of 1 acre of crops, per cent of 1914			
						1909	1921	1922	1909	1921	1922		
Sacks, grain. each Saddles. do Salt, for stock barrel Saws, buck each Screw hooks box	17. 45	\$0. 163 20. 35 1. 65 . 92 . 37	\$0.42 45.00 3.50 1.90	\$0. 26 35. 00 3. 20 1. 50 .71	\$0.27 34.94 3.24 1.56	86 91 97	172 194	166 172 196 170 162	100 107 101 95	55 51 46 54 46	71 69 60 69 73		
Scythes each Sheeting yard Shingles M Shirts, fiannel each Shoes pair	1.02 .17 3.50 1.34 2.00	1.06 .18 3.70 1.41 2.30	2. 10 . 57 8. 10 3. 90 5. 00	1.85 .40 5.80 2.85 3.65	2.04 .41 6.12 2.94 3.40	94	174 222 157 202 159	192 228 165 269 148	96 98 97 97 106	51 40 56 44 56	61 52 72 56 80		
Shotguns each. Shovels do Staples 100 pounds. Starch pound. Steel wire 100 pounds.	12.45 .74 3.69 .07 3.43	12.85 .78 3 75 .07 3.55	33. 00 1. 85 7 60 .125 7. 30	29. 00 1. 55 6. 20 . 103 6. 00	25. 13 1. 45 5. 86 .11 5. 95	97 95 98 100 97	226 199 165 147 169	196 186 156 157 168	95 97 94 92 95	39 44 54 60 52	60 63 76 75 70		
Stoves each. Sugar pound Sulphur do Tredders each. Tm pails do	. 075	24.00 .069 .08 39.50 .27	61.00 .17 .12 78.50 .56	52 00 .073 .105 69 00 .50	55. 47 . 09 . 13 70. 33 . 44	94 84 94 99 93	217 106 131 175 185	231 130 162 178 163	98 109 98 93 99	41 83 67 50 48	51 91 73 66 72		
Tobacco, plugpound. Twine, binderdo. Wagons, doubleeach. Wagons, singledo. Walking cultivatorsdo.	. 45 . 103 66. 00 45. 50	. 45 . 112 73. 25 48. 00	. 94 . 20 155, 00 95, 00 40, 00	. 85 . 16 134. 00 79 00 34. 00	. 82 . 13 126. 39 81. 23 30. 05	100 92 90 95	189 143 183 165	182 116 173 169	92 100 102 97	47 62 48 54	65 102 68 70		
Wheelbarrows do Wre fence rod. Wooden buckets each Wooden wash tubs do	2.80 .311 .31 .77	2. 97 . 317 . 35 . 83	6. 50 . 64 1. 05 1. 90	5. 50 53 . 90 1. 50	5. 77 . 52 1. 04 1. 62	94 98 89 93	185 167 257 181	194 164 297 195	98 94 102 99	48 53 34 49	61 72 40 61		
Average		•••••			•••••	95	176	177	97	52	67		

FARM LABOR.

Table 538 .- Wages of male farm labor by classes and States, 1913 and 1923.

		Pet n	ionth.		Pe	r day a	it haiv	rest	Pe	r day d har	other ti vest	าลา
State and division.		ith ud	Wit	hout ard.		ith ard.	With	hout ard.		ith ard.	W1t	hout aid
	1913	1922	1913	1922	1913	1922	1913	1922	1913	1922	1913	1922
Maine. New Hampshire Vermont. Massachusetts. Rhode Island Connecticut New York New Jersey Pennsylvania	\$25, 50 24, 70 26, 30 25, 50 25, 00 23, 90 25, 50 21, 20 20, 60	\$38 00 38.60 35.00 41.00 40.00 39.70 40.00 3J.00	\$36, 00 38, 60 37, 00 42, 00 39, 40 39, 30 36, 20 35, 50 32, 00	\$53. 50 60. 00 52. 00 68 00 65 00 67. 00 56. 50 62 00 50 90	\$1 71 1.70 1.71 1.61 1.53 1 55 1 80 1.78 1.53	\$2, 45 2 46 2, 35 2, 56 2 75 2 50 3, 00 3 05 2, 50	\$2. 12 2 15 2. 06 2. 08 2. 00 1. 95 2. 30 2. 25 1. 94	\$3 07 3 20 3.00 3.45 3.60 3 40 3 65 3 80 3 20	\$1. 35 1. 39 1 31 1. 39 1. 25 1. 25 1. 41 1. 23 1 17	\$2. 08 2 11 1. 96 2. 31 2. 37 2. 05 2 46 2. 25 2. 10	\$1.74 1.79 1 65 1 87 1 72 1.75 1.82 1.67 1.58	\$2.70 2.84 2.53 3.18 3.20 2.95 3.15 3.00 2.70
North Atlantic	23, 45	37. 14	35. 29	55 82	1.67	2.70	2.12	3.40	1.30	2. 24	1 71	2. 91
Delaware Maryland Virginia West Virginia North Carolina South Carolina Georgia Florida	17. 20 17. 30 16. 10 21. 20 15. 90 13. 40 14. 30 17. 90	27. 10 28. 50 24. 80 33. 20 24. 00 16. 20 15. 60 23. 40	26. 00 26. 50 23. 50 30. 50 22. 30 17. 90 20. 20 26. 70	40 00 42.00 35.50 47.90 33 00 23 20 23.00 35.50	1 40 1.30 1.25 1.31 1.13 1.03 1.10 1 12	2. 33 2. 17 1. 90 2. 20 1 85 1. 24 1. 05 1. 30	1.74 1.65 1.52 1.73 1.40 1.29 1.38 1.40	2 85 2 77 2.32 2.80 2.25 1 56 1.35 1 80	. 94 . 91 . 86 1 04 . 83 . 73 . 82 . 98	1.60 1.54 1.31 1.55 1.35 .85 .88 1.15	1. 19 1 22 1. 11 1. 36 1 06 . 91 1. 04 1. 30	2 07 2.11 1 76 2.10 1.75 1.08 1.12 1.60
South Atlantic	15.88	22 12	22.62	31.72	1.16	1.61	1.45	2 01	. 85	1.18	1.09	1.55
Ohio Indiana Illinois Michigan Wisconsin	22.70 22.30 25.30 24.90 28.10	32. 60 30 20 33. 90 33. 60 37. 00	32. 20 30. 20 33. 30 35. 00 39. 80	46. 50 42. 70 45. 00 47. 30 54. 00	1.81 1.80 1.93 1.94 1.90	2.70 2.58 2.75 2.60 2.65	2. 23 2. 20 2. 33 2. 37 2. 36	3. 28 3. 15 3. 30 3 29 3. 32	1. 33 1. 25 1. 39 1. 41 1. 46	2 00 1.80 1.95 2.10 2.20	1. 71 1. 59 1. 73 1. 82 1 93	2 60 2.32 2 48 2 70 2 90
N. C east of Miss. R		33. 35		46.71		2 67		3.27		2.00		2. 58
Minnesota. Iowa Missouri North Dakota. South Dakota. Nebraska Kansas	28.90 30.70 21.60 31.00 30.00 26.90 24.00	35. 00 36. 80 28 70 38. 70 36. 40 34. 50 32. 50	41. 00 40 20 29. 40 42. 50 43 00 38. 40 33. 70	50.00 49.70 39.50 55.50 53.00 48.50 46.70	2. 43 2 25 1. 57 2 70 2 37 2. 19 2. 14	2. 90 2. 70 2. 25 3. 90 3. 05 3. 00 3. 50	2. 83 2. 62 1. 95 3. 35 2. 96 2. 68 2. 48	3.60 3.35 2.73 4.85 3.75 3.65 4.10	1.67 1.70 1.08 1.85 1.69 1.57 1.35	2. 20 2. 11 1. 46 2. 50 2. 25 2. 15 2. 19	2. 14 2. 13 1. 39 2. 50 2. 22 2. 06 1. 75	2.95 2.67 1 90 3.40 3.10 2.85 2.75
N. C. west of Miss. R.	25.56	33.63	35. 23	47.14	2.00	2,88	2. 42	3. 51	1.42	2.01	1.83	2 63
Kentucky	17. 40 15. 80 14. 40 13. 60 14. 00 19. 20 20. 00 17. 00	25. 90 22. 30 17. 60 18. 20 22. 40 24. 20 26. 00 21. 35	24. 00 22. 30 20. 30 19. 60 20 70 27. 50 29 10 24 50	36. 30 30. 75 25. 80 25. 90 32. 60 35. 40 37. 00 31. 60	1.36 1.18 1.00 .93 1.00 1.30 1.60 1.24	1. 95 1. 58 1. 18 1. 14 1. 30 1. 72 2. 35 1. 56	1. 68 1. 47 1. 26 1. 16 1. 28 1. 63 2. 00 1. 53	2. 46 1 90 1 48 1. 50 1. 60 2. 10 2. 75 2 00	.87 .81 .83 .85 .85 1.08 1.10	1. 23 1 07 1 00 1. 10 1 26 1. 30 1. 52 1. 15	1. 13 1. 03 1. 04 1. 08 1 10 1. 34 1. 47 1. 18	1. 63 1 40 1. 30 1. 45 1. 60 1. 66 1. 96
South Central	16.70	22, 33	23.85	32.09	1.21	1.61	1.51	1.98	. 93	1 20	1.18	1, 56
Montana. Wyoming Colorado New Mexico Arizona. Utah Nevada Idaho Washington Oregon California.	38.50 39.70 36.00 33.20 31.00	42. 20 39. 50 35. 00 31. 00 40. 00 47. 00 48. 00 46. 00 45. 00 43. 50 55. 00	54. 00 49. 20 44. 30 36. 00 48. 50 51. 00 56. 50 50. 00 48. 40 44. 50 50. 70	63. 00 60. 00 54. 00 46. 00 58. 00 65. 00 65. 00 65. 00 63. 00 79. 00	2.21 1.94 1.75 1.37 1.88 1.96 2.05 2.31 2.41 2.09 1.97	3. 60 2. 40 2. 52 1. 60 2. 40 2. 40 3. 00 2. 75 3. 25 2. 85 3. 20	2. 90 2. 54 2. 27 1. 74 2. 31 2. 37 2. 75 2. 76 2. 90 2. 60 2. 48	4. 40 3. 25 3. 27 2. 10 3. 00 2. 95 3. 85 3. 40 3. 90 3. 50 3. 90	1. 76 1. 59 1. 36 1. 13 1. 46 1. 75 1. 65 1. 72 1. 67 1. 48 1. 44	2. 40 1. 95 1 90 1. 30 1 75 2. 16 2. 40 2. 22 2. 38 2. 25 2. 53	2. 52 2. 22 1. 95 1 53 2 00 2. 15 2. 38 2. 32 2. 20 1. 98 2. 01	3 20 2. 75 2. 60 1 80 2. 50 2 81 3. 40 3. 00 3. 15 2. 95 3. 40
Far Western	33. 52	45. 57	48.17	66.03	2.02	2.89	2. 53	3. 56	1, 52	2. 23	2.07	3.00
United States	21.38	29.17	30.31	41. 79	1. 57	2. 20	1.94	2.72	1.16	1.65	1.50	2. 15

FARM LABOR-Continued.

Table 539.—Wages of classes of male farm labor, yearly, in United States, 1910-1922.

	By the	month.	Day labor	at harvest.	Day labor	not harvest.
Year	With board.	Without board.	With board	Without board.	With board.	Without board.
United States						
1910	\$19.21	\$27.50	\$1.45	\$1.82	\$1.06	\$1.83
1911	20.18	28. 77	1.49	1.85	1.09	1.42
1913	20. 81 21. 38	29. 58 30. 31	1.54	1.87	1.14	1.47
1914	21. 05	29.88	1. 57 1. 55	1.94	1.16	1.50
1915	21. 26	30.15	1.56	1.91 1.92	1.13 1.13	1.45
1916	23. 25	32, 83	1. 69	2.07	1. 13	1.47 1.62
1917 1918	28.87	40.43	2.08	2. 54	1.56	2.02
1918	34. 92	48.80	2.65	3.22	2.07	2.63
1919	39. 82 46. 89	56. 29	3. 15	3.83	2.45	3.12
1920. 1921.	30.14	64. 95 43. 32	3.60	4.36	2.86	3.59
1922	29.17	41.79	2. 24 2. 20	$\begin{bmatrix} 2.79 \\ 2.72 \end{bmatrix}$	1.68	2.18
1922 North Atlantic States	20.11	21.10	2.20	2.12	1.65	2.15
1913	23. 45	35. 29	1.67	2.12	1.30	1.71
1919	42.18	63 39	3.09	3.86	2.59	3, 30
1920 1921	51.92	75. 54	3.78	4.68	3. 20	4.01
1921	38. 06 37. 14	57. 25 55 82	2. 73	3. 45	2. 20	2.90
1922 North Central, East:	91.14	99 82	2. 70	3.40	2. 24	2.91
1913	24. 52	33.78	1.88	2.29	1.36	1.75
1919	42.12	58 90	3. 56	4.32	2.71	3. 44
1920	51. 49	70.09	4. 17	5.00	3. 22	4.01
1921	34. 98	48.84	2.68	3.33	2.04	2.61
1922 North Central, West:	33. 35	46 71	2. 67	3. 27	2.00	2.58
1913.	26.60	36.68	2, 12	2.54	1 40	1 01
1919.	50. 29	68. 10	4. 48	5. 33	1.48 3.22	1.91 4.03
1920	59.63	79. 79	5, 03	5. 94	3.78	4.67
1921	35. 53	49.90	3. 03	3.72	2.09	2.73
1922. outh Atlantic	33. 63	47.14	2. 88	3. 51	2.01	2.63
1913	15, 88	22, 62	1 10		0.5	1 00
1919	30. 54	44.03	1. 16 2. 28	1. 45 2. 82	. 85 1. 85	1. 09 2. 39
1920.	35. 75	50. 56	2.69	3.30	2.13	2. 74 2. 74
1921	22.33	32. 26	1. 59	1.97	1. 22	1.58
1922	22.12	31. 72	1.61	2.01	1.18	1.55
onth Central:		22.22				
1913	16. 70	23. 85	1. 21	1.51	. 93	1.18
1919. 1920.	32. 42 36. 53	46. 47 51. 94	2. 56 2. 80	3. 14 3. 41	2.06 2.29	2.61 2.89
1921	22, 72	33. 10	1.63	2.04	1. 21	1.58
1922	22.33	32.09	1.61	1.98	1. 20	1.56
ar West						
1913	33. 52	48.17	2.02	2. 53	1.52	2.07
1919	62. 96	87.12	3. 80	4.67	3.08	4.02
1920 1921	73. 21 47. 29	99. 43 68. 01	4. 48 2. 87	5. 39 3. 63	3. 66 2. 26	4.61 3.01
1921	45. 57	66.03	2. 89	3. 56	2. 20	3.00
***************************************	20.01	00.03	2.00	0.00	2. 20	5.00

FARM LABOR SUPPLY AND DEMAND.

Table 540.—Farm labor supply and demand, 1920-1923.

Division.	Fa pe	rm lab r cent	or sup of norn	ply, nal		m labo r cent			Per cent of supply to demand.				
	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923	
North Atlantic- South Atlantic- N. Cent. E. Miss R. N. Cent. W. Miss. R. South Central Far Western	62 3 72. 5 68. 4 77. 8 72. 8 82. 1		99 2 97.3 101.4 101.1 97.1 107.0	83.0 76.5 89.1 86.7	107. 8 107. 4 106. 6 103 4 104 2 101. 5	92. 7 86. 6 91. 2 89. 1 83. 0 89. 0	94. 8 88. 4 91. 0 89. 3 86. 6 89. 9	95.2 94.2 95.4 95.5 93.9 94.0	64. 2 75. 2 69. 9	108. 9 104. 3 108. 4 113. 6	104.6 110.1 111.4 113.2 112.1 119.0	77.0 88 1 80.2 93 3 92.3 97.1	
United States	72 4	95 2	99.5	83.6	105 3	87 5	89.3	94.6	68 8	108.8	111 4	8× 4	

VALUE OF PLOW LANDS.

Table 543.—Value of plow lands, by States, 1920-1923.

State.	Ave	age of lan	poor j ds	plow	Ave	rage of lan	good j	plow	Av	erage (lan	of all pi	low
E Galler	1920	1921	1922	1923	1920	1921	1922	1923	1920	1921	1922	1923
Maine New Hampshire Vermont Massachusetts Rhode Island	\$30	\$25	\$22	\$22	\$56	\$50	\$47	\$48	\$42	\$36	\$35	\$36
	24	24	25	24	64	63	64	58	42	31	41	40
	30	29	27	24	69	67	63	56	48	47	45	40
	40	40	39	39	103	98	105	106	72	69	69	70
	50	50	50	51	105	105	105	106	85	85	86	87
Connecticut	35	34	32	32	100	90	90	88	60	58	58	57
New York	39	40	38	35	84	84	83	80	64	65	62	59
New Jersey	50	55	48	49	104	125	109	109	80	92	84	83
Pennsylvania	40	39	33	35	86	81	73	73	66	62	54	54
Delaware	44	38	31	28	86	72	67	70	66	56	50	51
Maryland	46	31	31	32	82	70	67	67	60	51	49	50
Virginia.	34	32	27	31	73	70	60	64	53	50	43	47
West Virginia.	32	31	27	28	75	70	62	67	51	48	42	45
North Carolina.	42	36	33	35	87	76	67	70	63	55	49	52
South Carolina.	41	32	23	21	82	68	46	45	61	50	35	35
Georgia	30	23	18	17	63	50	38	36	46	36	28	26
Florida	23	25	21	20	53	55	56	43	36	40	37	31
Ohio	69	60	52	52	132	110	100	100	105	88	78	78
Indiana	80	71	56	54	150	137	108	105	119	109	85	82
Illinois	115	105	91	86	213	195	160	155	170	157	131	126
Michigan. Wisconsin. Minnesota. Iowa. Missouri.	41	41	39	36	80	83	77	74	64	65	60	57
	66	65	58	60	125	122	110	108	100	98	87	86
	73	74	67	59	120	121	102	96	100	101	87	80
	157	145	119	115	257	238	193	181	219	200	163	153
	60	58	44	45	110	106	84	85	87	83	65	66
North Dakota.	31	30	25	24	49	49	44	40	43	42	37	33
South Dakota.	67	66	52	43	108	102	80	73	90	85	72	58
Nebraska	85	80	72	65	150	140	123	116	125	115	101	96
Kansas	50	50	43	41	99	90	77	74	70	70	60	58
Kentucky.	42	33	28	27	95	75	67	66	70	53	47	46
T(nnessee.	40	35	28	30	90	81	68	70	60	55	47	50
Alabama.	20	17	14	16	43	38	32	34	30	26	23	26
Mississippi	23	16	16	17	49	36	34	36	35	26	25	26
Louisiana.	34	24	21	24	65	50	42	45	50	38	31	34
Texas.	36	33	29	28	72	70	60	57	56	52	47	44
Oklahoma	30	29	26	24	63	63	58	52	47	46	41	37
Arkansas	26	24	20	21	65	54	46	47	45	38	33	34
Montana	21	19	15	14	48	41	35	31	36	30	23	22
Wyoming	34	25	23	21	70	60	54	48	53	44	37	35
Colorado	40	35	35	30	88	86	84	75	66	67	61	56
New Mexico	30	30	23	21	60	60	57	53	45	45	41	37
Arizona	90	75	70	70	180	140	130	132	130	120	115	116
Utah.	60	50	42	35	135	140	125	95	103	100	90	74
Nevada	46	45	40	30	110	90	80	80	80	75	70	65
Idaho	68	58	50	46	135	128	110	93	105	99	85	76
Washington		63	52	50	150	140	120	110	115	105	90	88
Oregon		60	55	52	130	135	110	106	100	103	90	84
California		75	69	53	175	200	193	166	130	135	128	113
United States	61	57	47	45	113	106	89	85	90	84	70	67

SOURCE OF FARMERS' FOOD SUPPLIES.

In 1922 a questionnaire was sent to crop reporters of the Department of Agriculture with the following

equestions:

1. What percentage is produced on your farm?

2. What percentage is produced in locality, but not on your farm? (By produced in locality is meant the quantity not brought in by railroad.)

3. What percentage is not produced in locality, and which could not be displaced by locally grown products?

4. What percentage is not now produced locally but which could be produced economically in locality or be reasonably displaced by locally grown products?

The results are given in the tables below:

Table 542 —Summary of percentages of farm food supply derived from various sources, by geographic division.

Geographic division.	Pro- duced on farm.	Produced locally not on farm.	cally b	duced lo- ut can be ably dis- by local tion	A+B	C+D
			No.	Yes	·	
	A	B	С	D		
New England 1. Middle Atlantic 2. East North Central 3. West North Central 4. South Atlantic 6. East South Central 6. West South Central 7. Mountain 8. Pacific 9. United States.	61. 9 58. 7	Per cent 7.5 8.4 9.1 8.2 7.1 6.6 10.9 12.5 16.6	Per cent 32.6 26.6 21.5 24.4 17.1 17.2 24.0 25.6 27.8	Per cent 9.3 7.5 7.5 8.7 8.7 8.7 9.7 13.6	Per cent. 58.1 65.9 71.0 66.9 74.6 75.2 63.3 64.7 58.6	Per cent. 41.9 34.1 29.0 33.1 25.4 24.8 36.7 35.3 41.4 30.9

¹ Maine, New Hampshite, Vermont, Massachusetts, Rhode Island, Connecticut.
2 New York, New Jersey, Pennsylvania.
3 Ohio, Indiana, Illinois, Michigan, Wisconsin.
4 Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.
5 Delaware, Mai yland, Viiginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
6 Kentucky, Tennessee, Alabama, Mississippi.
7 Louisiana, Tevas, Oklahoma, Arkansas.
8 Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho.
9 Washington, Oregon, California.

SOURCE OF FARMERS' FOOD SUPPLIES-Continued.

Table 543 .- Percentages of farm food supply derived from various sources, by States.

State.	Pro- duced on farm.	Produced locally not on farm.	cally b	luced lo- ut can be bly dis- by local tion	A+B	C+D
		***	No.	Yes.		
	A	В	С	D		
Maine New Hampshire Vermont Massachusetts Rhode Island	Per cent. 53. 0 57. 4 51. 5 49. 2 54. 0	Per cent. 7.9 5.4 8.7 6.3 6.5	Per cent. 29.7 30.3 30.4 38.1 23.5	Per cent. 9.4 6.9 9.4 6.4 16.0	Per cent 60 9 62. 8 60. 2 55. 5 60 5	Per cent. 39. 1 37. 2 39. 8 44. 5 39. 5
Connecticut. New York . New Jusey . Pennsylvania Dolaware .	38. 2 53. 8 53. 1 61. 8 69. 2	8.6 9.0 7.8 7.8 9.9	37. 6 29. 3 30. 5 23. 4 15. 9	15.6 29.3 8.6 7.0 5.0	46, 8 62 8 60, 9 69, 6 79, 1	53. 2 37. 2 39. 1 30. 4 20. 9
Matyland Virginia. West Virginia. Noi th Carolina South Carolina.	71.3 72.0 53.3 72.4 67.1	7. 2 7. 2 8. 9 6. 5 6. 1	16. 9 16. 0 27. 2 14. 0 17. 1	4.6 4.8 10.6 7.1 9.7	78. 5 79. 2 62. 2 78. 9 73. 2	21. 5 20. 8 37. 8 21. 1 26. 8
Georgia Florida Ohio Indiana Uhnois	67.7 47.5 70.2 63.2 54.6	6.6 11.5 7.2 9.2 11.0	15. 7 27. 3 17. 3 20 9 24 7	10. 0 13. 7 5. 3 6. 7 9. 7	74.3 59.0 77.4 72.4 65.6	25.7 41.0 22.6 27.6 34 4
Michigan Wisconsin Minnesota Lowa Missouri	63.7 57.6 60.1 58 7 61.4	9. 2 9. 2 8. 0 6. 3 8. 8	20. 3 24. 3 23. 9 24. 0 21. 9	6.8 8.9 8.0 10.0 7.9	72.9 66.8 68.1 66.0 70.2	27. 1 33. 2 31. 9 34. 0 29. 8
North Dakota South Dakota Nobraska Kansas Kentucky	55. 2 58. 4	9.3 7.7 8.2 9.5 8.2	29.8 28.0 24.9 24.7 18 4	9. 4 9. 1 8. 5 8. 5 5. 5	60. 8 62. 9 66. 6 66. 8 76. 1	39. 2 37. 1 33. 4 33. 2 23. 9
Tennessee. Alabama Mississippi Louisiana Texas	69. 6 66. 0 51. 6	6. 9 4. 4 6. 8 11. 5 13. 1	15. 1 17. 1 18. 3 22. 5 24. 8	6. 9 8. 9 8. 9 14. 4 13. 4	78.0 74.0 72.8 63.1 61.8	22.0 26.0 27.2 36.9 38.2
Oklahoma Arkansas Montana Wyonung Colorado	55. 4 53. 2 49. 6 48. 9	9.5 7.6 9.3 6.6 11.8	23. 4 23. 8 29. 4 30. 6 26. 9	9. 7 13. 2 8. 1 13. 2 9. 4	66. 9 63. 0 62. 5 56 2 63. 7	33. 1 37. 0 37. 5 43. 8 36. 3
New Mexico Arizona Utah Nevada	45.7 33.1 64.6 30.0	12.1 19.6 13.8 22.5	32.6 30.4 14.1 17.5	9. 6 16. 9 7. 5 30. 0	57. 8 52. 7 78. 4 52. 5	42. 2 47. 3 21. 8 47. 5
Idaho Washington Oregon California	59.7 49.4 48.8 34.8	13.3 13.6 12.8 20.0	18. 7 26. 1 27. 9 28. 8	8. 3 10. 9 10. 5 16. 4	73.0 63.0 61.6 54.8	27. 0 37. 0 38. 4 45. 2
United States	60.3	8.8	21.9	9.0	69. 1	30.9

SOURCE OF FARMERS' FOOD SUPPLIES—Continued.

Table 544.—Products mentioned for greater local production.

Crop reporters were requested to name products which are not now produced locally but which could be produced economically in locality or be reasonably replaced by locally grown products. The frequency of mention of various products, reduced to percentages, is shown below for the United States and geographic divisions.

Product.	United States	North Atlantic.	North Central, East	North Central, West.	South Atlantic.	South Central.	Far West
Fruits Nuts Vegetables (general) Polatoes. Sweet potatoes Beans Food cereals. Wheat (flour) Cotu (meal) Buckwheat Rice Canned goods Meats Lard Dairy products Milk Butter Cheese Eggs. Poultry Miscellaneous Sugar Sirup Honey Fish Vinegar Tea and coffee.	3 1 1 3 1 1 3 2 0 0 4 9 9 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 3 1 1 3 1 1 3 3 1 1 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Per cent 9.5 2.0 8 0 .9 5 1.1 4.6 4.9 9 2.4 4 1.8 9 9 1.5	Per cent. 13. 2 2. 5 5 7 4. 4 1. 0 2. 1 5. 9 1. 0 1. 1 10. 7 8. 7 -4 6 3. 2 8. 3 -1 7. 3 3. 7 1. 1 7. 3	Per cent. 14.5 3.2 8.1 5.7 2.0 0 2.0 5.8 13.3 6 4 11 0.7 9.1 5 5 1.4 9.5 1.1 6 2 4.4 3.3 1.3 2.2 2.3 3	Per cent. 8 9 9 5.2 4 3.5 1.3 3 1.6 4 4.4 8 2.0 0 2.6 6 2.0 0 3.2 2 6.0 0 1.4 1 5.2 2 4.1 1 4.3 0 4.1 1 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 5 5.2 4 1.1 6 5.2 4 1.1 6 5.2 6 5.2 6 5.2 6 5.2 6 5.2 6 5.2 6 5.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2 6 6.2	Per cent. 9 8 8 3.00 7.8 1.55 2.8 1.77 12 8 2.55 1.9 7.66 11.9 3.2 2.0 3.0 3.0 4 3 3 1.2 1.2 1.2 2 3.6 5.2 2.8 8 1.7 7.5 5.5	Per cent. 10 4 1.9 9 9 8 2.6 6.1.3 7.1 12.2 6.6 3.6 1.3 1.1 1.1 3.6 5.0 8.5 2.3 1.1 7.6 6 9 7 2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TAXES PAID ON FARM REAL ESTATE.

In the autumn of 1922 a questionnaire was sent to crop reporters asking the amount of taxes (State, county, and local) actually paid in 1913–14 and 1921–22 on the same real estate in both periods. The average tax per acre obtained by dividing the total of such taxes as reported, by the farm acreages as reported, by States, is shown below:

TABLE 545.—State, county, and local taxes.

		State, cou cal) per ac			Taxes (S	State, cou al), per a	nty, and cre.
State and division.	1913–14	1921-22	1921-22 per cent of 1913-14.	State and division.	1913–14	1921–22	1921-22 per cent of 1913-14.
Maine. New Hampshire Vermont Massachusetts Rhode Island	\$0.35 .36 .35 .63	\$0 60 .67 .65 1.20	172 189 187 189 168	North Dakota	\$0. 24 . 27 . 27 . 27 . 27	\$0, 63 . 80 . 67 . 63	258 292 249 229
Connecticut	. 50	. 99	196	N C. W. Miss. R	. 317	.771	243
New York	. 59 . 96 . 58	1. 13 2. 22 1. 11	194 232 192	Kentucky	. 24 . 19 14	. 52 . 53 . 27	215 271 188
N. Atlantic.	. 548	1.05	192	Mississippi Louisiana	.26	.67 .77	259
Delaware	.37 .50 .20 .21	. 68 . 85 . 34 . 52	182 170 176 148	Texas Oklahoma Arkansas	.17 .28 .18	. 35 . 57 . 66	257 214 201 360
North Carolina	.16	.44	269	S. Central	. 201	. 461	229
South Carolina Georgia Florida	.16 .28	.35 .30 .65	262 188 229	Montana Wyoming Colorado	.07	.16 .39 .68	229 205 340
S. Atlantic	. 196	.418	213	New Mexico	.19	.33	174
Ohio Indiana Illinois Michigan Wisconsin	.61 .90 .56 .66	1. 24 2. 09 1. 23 1. 58 1. 23	204 231 222 240 224	Arizona Utah Nevada Idaho Washington Oregon	. 24 . 21 . 59 . 33 . 27	.42 .43 1.40 .70 .78	100 175 205 237 212 289
N. C. E. Mr. R	. 645	1.44	223	California	. 42	.78	186
Minnesota Iowa Missouri	.37 .68 .17	. 91 1. 49 . 39	246 220 225	Far Western	.314	. 709	223

AGRICULTURAL STATISTICS FROM CENSUS FOR 1920.

Table 546.—Nativity of farm operators.

	Number	of farm		Per	centag to	ge of rs wh	all fa	rm op	oera-	Average acreage per			
State and division.	Native white.	For- eign white.	Negro and other non-		tive ite.		eign ite.	Negr other wh	non- ite.	Native white.	For- eign	Negro and other	
		WHITE	white	1920	1910	1920	1910	1920			white.	non- white.	
Maine. New Hampshire. Vermont. Massichusetts. Rhode Island. Connecticut. New York. New Jersey. Pennsylvania.	43,830 17,890 25,280 22,950 3,123 14,955 166,869 22,555 187,277	7,625	20 75 550 535 451	90 9 87 2 86 9 71 7 76 5 66. 0 86 4 75 9 92 6	90. 0 88 6 77. 0 83. 3 74 0 87 0 80 0	13.0 27.9 23.0 33.7 13.3	22 7 15.9 25.6 12 5	.4 .5 .3	.4	113. 2 130 6 145. 3 85 8 88. 6 91. 0 109 9 85. 5 88. 9	106. 0 101. 6 147. 9 58. 2 57. 6 69. 6 87. 1 49. 6 67. 3	73 3 105. 4 158. 9 46. 2 47. 6 96. 6 78 0 49. 2 59 7	
N. Atlantic	504, 729	75,175	1,807	86.8	88 3	12.9	11 3	.3	.4	102 0	79.1	64.6	
Delaware. Maryland District of Columbia. Virginia. West Virginia. North Carolina. South Carolina. Georgia. Florida.	8,905 40,130 153 136,874 86,033 193,081 83,542 180,217 38,836	363 1,569 1,582 7,582 7,52 392 141 328 2,215	47,786 504	87 8 83 8 75 0 73 5 98 6 71 6 43 4 58 0 71 9	72.9 98 4 74 0 45.0	3 6 3 3 15 2 .8 .9 .1 .1 .1 .1	3 8 3 8 17. 1 1 0 . 9 2 1 1 2. 4	9 8 25.7 .6 28 3 56.6 41 9	8 5 13.0 5 5 26 1 7 25 9 54.9 42 1 29.4	32.1 117 5 110 2 85 7 95 9 101 5	262.3	45 1 40.2 54 3	
S. Atlantic	767,771	7,373	383,832	66 3	67 4	- 6	.6	33.1	32 0	102 7	98 4	47 5	
Ohio Indiana Ilimois Michigan Wisconsin	241,075 198,156 214,177 147,450 134,634	14,004 6,398 22,111 48,264 53,998	1,616 572 893 783 663	93 9 96 6 90 3 75 1 71 1	92 9 95 1 86 2 71 4 60 5	24.6	6 4 4 5 13.3 28 1 39 2	.4	.5	136. 1 99. 8	97.1 125.6 88.6	64.2 64.6 66.5	
N. C. E. Miss. R	935, 492	144,775	4,477	86 2	82 8	13 4	16 7	.4	. 5	110 3	98.3	62.0	
Minnesota. Iowa. Missouri North Dakota. South Dakota. Nebraska. Kansas.	110, 966 181, 109 251, 835 40, 899 52, 700 99, 441 146, 859	67,305 32,221 8,343 36,248 20,325 24,592 17,189	207 109 2,826 543 1,612 384 1,238	62. 2 84 9 95 8 52. 6 70 6 79 9 88 9	47 9 77 3 93 5 48 1 63 6 72 1 84. 5	33 7 15 1 3 2 46 7 27 2 19.8 10 4	52 0 22 6 5 2 50 9 32.8 27.5 14 5	1.1 1.7 2.2	1.3	156. 8 132 9 474 2 481 5 354 0	133.3 458.9 413.9 283.0	81.2 67 4 343 4 527.4 173.7	
N. C. W. Miss. R	883,809	206, 223	6,919	80 6	74 8	18.8	24 3	. 6	.9	228. 1	261.2	218 5	
Kentucky. Tennessee. Alabama. Mississippi Lomsiana. Tevas. Oklahoma. Arkansas.	256, 886 213, 832 159, 865 110, 279 71, 081 327, 475 167, 472 158, 273	1,112 760 1,031 603 2,323 29,774 5,791 2,049	161 219	94 9 84 6 62 4 40 5 52 5 75 1 87 2 68 0	52 5 76.4 85.1	.4 .3 .4 .2 1 7 6.8 3.0	8 4 .5 .3 2 0 6.9 4.1 1.1	37. 2 59. 2 45 8	4 5 15.6 42 0 60.0 45 5 16 7 10.9 29 6	83. 8 94 7 111 6 107. 8 317 5 172. 4	130.2 74.6 188.1	39 9 45 7 36 1 35 2 56 6 91.5	
S. Central			539, 082	71 6	70.8	2.1	2 3	26.3	26 9	151 2	177. 2	42.8	
Montana. Wyoming Colorado. New Mexico Arizona Utah. Nevada Idaho Washington. Oregon. California.	41,051 13,306 49,846 26,593 8,262 21,276 2,060 35,284 45,265 40,484 76,995	15,563 2,273 9,535 1,376 1,067 3,972 884 6,314 19,757 9,149 34,189	1,063 169 553 1,875 646 414 219 508 1,266 573 6,486	71. 2 84. 5 83. 2 89. 1 82. 8 82. 9 65. 1 83. 8 68. 3 80. 6 65. 4	69. 3 82. 1 80. 6 89. 9 56. 6 73. 6 61. 8 80. 2 67. 2 78. 7 66. 8	4.6 10 7 15 5 27.9 15 0 29 8 18.2	26. 1 17 3 18 2 4. 0 8 7 25 2 32. 2 18. 5 30. 8 19. 9 29 7	6.3 6.5 1.6 6.9 1.2	34 7 1 3 6 0	431. 2 860 5 642 8 213 0 895. 1 203. 1 226. 2 282 4	302.1 1,063.2 403.8 117.7 567.2 183.8	135.3 158 0 34 3 93 5 123 6 53.7 94 3 80.1	
Far Western	360, 422	104, 079	13,772	75 4	74 1	21 8	22 5	2.8	3 4	397.0	275.7	124.9	
United States	4,917,386	581,068	949, 889	76.3	75 0	9 0	10. 5	14 7	14 5	162 6	191.3	47.3	

Table 547.—Mortgage debt reports.

[No mortgage reports were secured for farms operated by tenants and managers.]

[2.0 22.02	-80E					-				-	
	Farn	ns ope	erated by	owne	rs.	Farms o	onsisting only	of owned	lands		
State and division.	from me gage de	ort-	Number mortga debt Num- ber.	ge	Num- ber un- known (no re- port).	Num- ber re- porting debt and amount.	Value of land and buildings (000 omitted).	Amount of mort-gage debt (000 omit-ted).	Per cent of value of land and buildings.	Average value per farm mort-gaged.	Av- erage debt per farm.
Maine New Hampshire Vermont Massachusetts Rhode Island Connectaut New York New Jersey Pennsylvania	30,665 11,992 12,132 14,055 1,971 9,597 75,522 10,000 93,804	64.5 48.3 50.0 60.7	13, 023 5, 389 12, 225 12, 632 949 8, 920 66, 633 10, 085 48, 498	28.7 29.0 48.7 45.0 29.2 45.4 43.9 46.1 31.6	1,400 325 1,149 9,562 1,804	12, 345 4, 951 11, 504 11, 663 856 8, 137 59, 735 9, 296 44, 410		\$18, 592 6, 821 23, 576 23, 412 1, 494 17, 861 145, 533 25, 123 87, 741	31. 8 33. 6 38. 6 33. 1 30. 7 32. 0 37. 5 37. 4 34. 2	4,095 5,309 6,066 5,683	\$1,506 1,378 2,049 2,007 1,746 2,195 2,436 2,703 1,976
North Atlantic.	259,738	55.6	178, 354	38.2	29, 172	162, 897	983,030	350, 153	35.6	6,035	2,150
Delaware Maryland Dist of Columbia Virginia West Virginia North Carolina South Carolina Georgia Florida	3,504 19,292 53 98,470 52,617 102,950 42,847 64,061 25,010		29, 331 10, 274 24, 499 14, 299 23, 135	33.6 34.6 29.0 17.8 14.2 16.2 21.1 22.7 21.1	18 13,562 9,210 23,927 10,578 14,927	1, 903 10, 407 24 21, 155 9, 031 20, 149 12, 265 20, 797 7, 308	11, 422 75, 082 238 151, 585 43, 990 103, 282 92, 053 124, 579 50, 581	4, 461 27, 481 93 41, 726 11, 206 31, 968 25, 153 37, 671 12, 910	39.0 36.6 39.1 27.5 25.5 31.0 27.3 30.2 25.5	6,002 7,215 9,913 7,165 4,871 5,126 7,505 5,990 6,921	2,344 2,641 3,871 1,972 1,241 1,587 2,051 1,811 1,767
South Atlantic.	408, 804	67.3	118,026	19.4	80, 259	103, 039			29.5	6,336	1,870
Ohio Indiana Illinois Michigan Wisconsin	110,004 73,233 68,892 72,869 57,773	61. 8 53. 4 52. 0 45. 7 36. 2	51,474 51,039 78,758	28. 5 37. 5 38. 5 49. 4 59. 1	12,503 12,643 7,779	43, 068 40, 416 36, 663 67, 119 87, 081	387, 188 439, 152 775, 395 420, 108 937, 385	121, 121 105, 256 197, 212 144, 103 354, 574	31. 3 24. 0 25. 4 34. 3 37. 8	21,149 6,259	2,812 2,604 5,379 2,147 4,072
N. C. E. Miss. R.		49.9	326, 313	42.6		274, 347	2, 959, 228	922, 266	31.2	10,786	
Minnesota Iowa Missouri North Dakota South Dakota Nebraska Kansas	82,099	22. 5 33. 5	85, 538 40, 462 27, 262 35, 191	54.2 46.2 71.1 57.0 50.5	9, 985 17, 393 3, 622 4, 516 7, 416	57, 585 52, 341 68, 784 22, 623 14, 039 23, 986 26, 923	925, 963 1, 814, 260 752, 008 380, 133 411, 837 705, 562 424, 470	100,000	27.5 27.0 28.8 28.5 21.8 23.9 25.9	10,933 16,803 29,335 29,416	9,358 3,147 4,786 6,402 7,025
N.C.W.Miss.R.	278, 906	39. 2	·		61,092	266, 281	5, 414, 2 33	1, 437, 337	26.5	20,333	5,398
Kentucky Tennessee Alabama Mississippi Louisiana Texas Oklahoma Arkansas		32. 8	32, 264 27, 854 23, 990 11, 783 69, 940 47, 025	22. 6 21. 8 26. 0 26. 3 20. 6 34. 8 50. 4 30. 2	10,690 14,737 14,247 9,461 25,780	35, 531 27, 496 24, 748 21, 844 10, 301 57, 700 34, 045 29, 504	230, 557 159, 000 81, 888 99, 149 68, 362 664, 523 272, 616 129, 348	67, 117 49, 836 29, 103 30, 046 20, 491 172, 167 73, 434 38, 540	29.1 31.3 35.5 30.3 30.0 25.9 26.9 29.8	3,309 4,539 6,636	
South Central		58. 2			126, 431		1,705,443	480, 734	28.2		1,993
Montana Wyoming Colorado New Mexaco Arizona Utah Nevada Idaho Washington Oregon California	16, 365 6, 816 20, 965 16, 650 3, 708 10, 756 11, 599 11, 872 25, 012 18, 077 36, 042	47. 1 47. 6	5,513 21,131 6,257 3,380 9,916	46.7 24.3 43.0 43.9 32.8	1,074 3,195 2,849 781 1,907 216 2,715 3,685 3,943	15,735 4,331 2,876 8,086 767 17,142 19,503	50, 453 84, 578 18, 281	77, 950 15, 303 62, 623 11, 178 15, 648 24, 335 6, 519 69, 868 61, 121 51, 999 224, 064	32.4 27.5 29.6 25.9 31.0 28.8 35.7 31.2 30.3 31.2 29.3	14,125 13,454 9,948 17,543 10,460 23,834 13,047	2,581 5,441 3,009 8,499 4,076
Far Western	167,862			47.8	31,803	145, 314	2,060,754	620,608	30.1	14, 181	
TT .24 T CA	0 071 035	F0 0	101 000	A# 0	1000 100	1 100 047	10 777 700	1 000 707	90 1	11 5/6	2 256

Table 548.—Farm expenses.

		Lal	oor.			Feed.		I	Pertilize	r.
State and division.	Farms i		Cash	Rent and board	Farms i		Amount	Farms i		Amount
givision.	Num- ber.	Per cent of all farms.	expend- ed (000 omit- ted).	fur- nished (000 omit- ted).	Num- ber.	Per cent of all farms.	expend- ed (000 omitted).	Num- ber.	Per cent of all farms.	expend- ed (000 omit- ted).
Maine New Hampshire. Vermont Massachusetts Rhode Island. Connecticut. New York New York New Jersey. Pennsylvania	26, 735 11, 365 18, 171 18, 322 2, 296 13, 142 121, 256 18, 588 121, 116	55. 4 55. 4 62. 5 57. 3 56. 2 58. 0 62. 8 62. 6 59. 9	\$7,506 3,665 5,789 13,929 1,730 11,067 49,346 14,359 31,494	\$2, 135 855 1, 924 2, 648 372 2, 136 14, 979 3, 716 10, 112	39, 794 18, 015 25, 389 27, 853 3, 608 19, 791 158, 428 24, 933 156, 719	82. 5 87. 8 87. 3 87. 0 88. 4 87. 4 82. 0 83. 9 77. 5	\$14,859 8,726 11,071 20,273 2,889 11,721 82,966 14,719 51,678	22, 641 8, 799 14, 568 16, 992 2, 297 12, 668 113, 578 22, 774 144, 231	46. 9 42. 9 50. 1 53. 1 56. 3 55. 9 76. 7	\$7,759 526 857 3,907 380 4,894 15,067 10,743 15,628
N. Atlantic	350,991	60. 3	138, 885	38, 877	474, 530	81 6	218, 902	358, 548	61.6	59,761
Delaware	5, 394 29, 123 112 66, 500 31, 328 78, 394 62, 095 83, 444 20, 190	53. 2 60. 8 54. 9 35. 7 35. 9 29. 1 32. 2 26. 9 37. 4	2,052 12,915 140 17,003 4,787 10,818 13,688 16,705 10,118	756 3,806 33 3,420 1,029 1,218 1,496 2,311 713	6, 405 33, 353 153 97, 297 47, 183 128, 964 60, 088 86, 580 20, 471	63. 2 69. 6 75. 0 52. 2 54. 1 47. 8 31. 2 27. 9 37. 9	8, 045 171 12, 400 5, 639 12, 292 5, 904 9, 539	9,107 39,270 116 135,218 35,309 228,767 176,537 280,385 28,925	89. 8 82. 0 56. 9 72. 6 40. 5 84. 8 91. 6 90. 2 53. 6	23 17, 278 1, 710 48, 797 52, 547 46, 196
S. Atlantic	376, 580	32. 5	88, 226	14,782	480, 494	41.5	60, 505	933,634	80.6	
OhioIndianaIllinoisMichiganWisconsin	124, 806 93, 207 151, 300 102, 431 110, 878	48. 6 45. 4 63. 8 52. 1 58. 6	36, 339 25, 609 60, 909 24, 875 34, 582	10, 089 7, 259 18, 474 7, 069 13, 555	161, 658 130, 075 158, 180 111, 191 122, 372	63. 0 63. 4 66. 7 56. 6 64. 6	42,306 64,528 21,939	165, 556 98, 703 22, 488 65, 782 7, 785	64. 5 48. 1 9. 5 2 33. 5 4. 1	8,735 2,996
N C.E. Miss. R.	582,622	53.7	182, 314	56, 446	683, 476	63.0		360, 314		30, 589
MinnesotaIowaMissouriNorth DakotaSouth DakotaNebraskaKansas	111, 697 136, 682 125, 248 51, 752 49, 658 80, 696 117, 908	62. 6 64. 0 47. 6 66. 6 66. 5 64. 9 71. 3	36, 451 52, 942 33, 037 27, 678 24, 122 34, 604 54, 761	13, 360 17, 756 7, 078 9, 386 7, 630 10, 165 13, 112	100, 530 147, 605 164, 639 42, 957 37, 966 83, 374 117, 548	56. 3 69. 2 62. 6 55. 3 50. 9 67. 0 71. 1	79,069 60,171 12,383 16,689	3, 031 3, 177 47, 383 489 175 476 6, 183	.2	3,941 120 34
N.C.W.Miss.R.	673,641	61.4	263, 595	78, 487	694, 619	63.3	, ,	60, 914	5.6	
Kentucky	76, 953 70, 494 57, 308 43, 151 30, 166 190, 434 102, 674 66, 720	28. 4 27. 9 22. 4 15. 9 22. 3 43. 7 53. 5 28. 7	15, 292 9, 648 6, 589 6, 327 19, 700 80, 315 35, 333 12, 068	2,860 1,579 1,135 707 1,719 7,430 5,282 1,139	119, 689 100, 074 71, 668 77, 718 56, 423 215, 581 114, 488 118, 998	44. 2 39. 6 28. 0 28. 6 41. 7 49. 4 59. 6 51. 2	11, 165 5, 921 10, 261 12, 232 60, 762 30, 372	86,687 84,827 175,407 71,296 37,652 27,459 2,445 41,338	33.6 68.5 26.2 27.8	3,525 14,066 4,288 3,840 1,831 453
S. Central	637, 900	31. 2	185, 272	21,851	874, 639	42.7	164, 455	527, 111	25.7	34, 174
Montana. Wyoming Colorado New Mexico. Arizona Utah Nevada Idaho. Washington Oregon. California	24, 378 6, 961 35, 149 11, 538 5, 639 15, 033 1, 903 24, 789 38, 055 27, 959 76, 414	42. 3 44. 2 58. 6 38. 7 56. 5 58. 0 63. 0 58. 9 57. 4 55. 7 64. 9	15, 603 6, 717 23, 146 5, 260 7, 664 7, 472 4, 296 14, 734 28, 330 17, 162 109, 928	5, 741 2, 583 5, 146 1, 178 1, 018 1, 513 3, 570 5, 791 3, 869 16, 168	37, 901 8, 823 36, 092 14, 586 4, 906 13, 082 1, 687 24, 062 51, 038 34, 404 77, 772	65. 7 56. 0 60. 2 48. 9 49. 2 51. 0 53. 3 57. 1 77. 0 68. 5 66. 1	18, 431 5, 371 2, 060 3, 941 1, 423 10, 709	453 55 1, 184 1, 458 126 1, 017 58 575 3, 645 5, 614 16, 474	2.0 4.9 .1 4.0	9 294 113 41 109 10 106 526 490
Far Western	267, 908	56.0	240, 312		304, 353	63.6	149, 129	30, 659	6. 4	10,007
United States	2,889,642	44.8	1,098,604	257, 799	3,512,111	54. 5	1,097,452	2,271,180	35. 2	326, 400

Table 548.—Farm expenses—Continued.

	Percent	age of val	ue of all ited in—	property		value per 1 of—	Average land p	value of er acre.
State and division.	Lands.	Build- ings	Implements and machinery.	Live stock.	All property.	Lands and build- ings only.	1920	1910
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island Connecticut. New York. New Jersey. Pennsylvania.	Per cent. 42. 3 40. 0 37. 2 42. 5 43. 1 44. 6 41. 6 45. 6 42. 0	Per cent. 33. 2 35. 9 34. 9 35. 3 39. 2 33. 1 34. 7 34. 7	Per cent. 9.8 8.0 9.5 6.4 7.2 5.8 8.9 8.2 9.5	Per cent 14.7 16.2 19.1 11.2 14.4 10.4 16.4 11.5 13.8	Dollars. 5,609 5,782 7,661 9,389 8,238 10,019 9,879 10,499 8,551	Dollars 4, 232 4, 385 5, 473 7, 737 6, 463 8, 399 7, 376 8, 428 6, 560	Dollars. 21. 09 18. 21 19. 58 51. 17 43. 75 53. 28 38. 45 62. 29 41. 12	Dollars 13 73 13.70 12.52 36 69 33 86 33.03 32.13 48.23 33.92
N. Atlantic	42.0	34.5	8.8	14.7	8,806	6,738	37.35	29.32
Delaware	52. 5 56. 1 70. 1 63. 2 61. 9 68. 6 67. 9 66. 1 69. 2	28.3 27.3 24.0 22.4 20.8 17.5 17.4 17.8 16.1	8.5 6.3 1.8 4.2 3.7 4.4 5.0 4.7 4.1	10.7 10.3 4.1 10.2 13.6 9.5 9.7 11.4 10.7	7,903 9,678 29,059 6,425 5,687 4,634 4,946 4,306 6,116	6,386 8,070 27,340 5,501 4,706 3,990 4,222 3,663 5,212	44. 59 51. 62 733 27 40. 75 32. 11 42. 84 52. 08 35. 28 37. 78	33. 63 32. 32 1, 186 53 20. 24 20. 65 15. 29 19. 89 13. 74 17. 84
S. Atlantic	65.2	19.6	4.6	10.6	5,292	4,488	40.92	18.15
Ohio Indiana Illimois Michigau Wisconsin.	65. 1 72. 4 78. 8 54. 4 60. 5	20.9 14.8 11.2 27.1 21.3	4.7 4.2 3.3 6.9 6.2	9. 3 8. 6 6. 7 11. 6 12. 0	12,060 14,831 28,108 8,976 14,143	10, 368 12, 937 25, 289 7, 313 11, 558	85. 69 104. 57 164. 20 50. 40 73. 09	53. 34 62. 36 95. 02 32. 48 43. 30
N. C. E. Miss. R	69.9	16.8	4.5	8.8	15,898	13,771	102. 31	61.32
Minnesota. Iowa. Missouri. North Dakota. South Dakota. Nebraska. Kansas.	72.6 78.3 72.2 72.7 79.0 79.3 75.0	14.5 10.8 13.1 11.9 8.6 9.1 10.7	4.8 3.6 3.9 6.5 4.0 3.6 4.7	8. 1 7. 2 10. 8 8. 9 8. 4 8. 0 9. 6	21, 221 39, 941 13, 654 22, 651 37, 835 33, 771 19, 982	18,496 35,616 11,646 19,160 33,132 29,836 17,122	91. 00 199. 52 74. 60 35. 33 64. 42 78. 87 54. 50	36. 82 82. 58 41. 80 25. 69 34. 69 41. 80 35. 45
N. C. W. Miss. R	76. 2	11.2	4.2	8, 4	25, 517	22,307	83.04	43. 21
Kentucky. Tennessee. Alabama. Mississippi Louissana. Texas. Oklahoma. Arkansas.	69. 5 64. 5 60. 2 66. 5 65. 0 73. 0 70. 6 65. 8	16.8 17.3 18.5 15.3 15.3 10.2 11.6	3.2 4.3 5.0 4.2 5.6 3.5 4.8 4.7	10. 5 13. 9 16. 3 14. 0 14. 1 13. 3 13. 0 13. 8	5,587 4,953 2,698 3,546 4,354 10,200 8,649 3,974	4,823 4,055 2,123 2,903 3,499 8,486 7,104 3,238	48. 62 41. 40 21. 24 35. 27 38. 29 28. 46 36. 66 34. 82	21, 83 18, 53 10, 46 13, 69 17, 99 14, 53 22, 49 14, 13
S. Central	69.1	13.5	4.1	13.3	5,881	4,862	32.99	16.13
Montana Wyoming Colorado New Mexico Arizona Utah Nevada Idaho Washington Oregon California	70. 2 63. 1 70. 9 60. 4 67. 0 67. 8 59. 5 71. 5 75. 4 71. 6 81. 1	8.6 7.1 9.5 7.8 6.7 10.5 6.9 9.7 11.6 10.9 8.5	5.6 3.5 4.6 3.8 4.3 3.6 5.2 5.1 3.9	15. 6 26. 3 15. 0 28. 8 22. 5 17. 4 30. 0 13. 4 7. 8 12. 4 6. 5	17, 095 21, 235 17, 966 10, 896 23, 418 12, 130 31, 546 17, 008 15, 952 16, 304 29, 158	13, 468 14, 907 14, 449 7, 432 17, 276 9, 409 20, 947 13, 811 13, 885 13, 449 26, 122	19. 73 17. 86 31. 22 8. 04 26. 98 41. 78 25. 18 61. 11 60. 22 43. 29 94. 77	16.74 10.41 26.81 8.77 83.97 29.28 12.99 41.63 44.18 35.23 47.16
Far Western	74.2	9.2	4.5	12.1	19,633	16,377	40. 17	30, 86
United States	70.4	14.7	4.6	10.3	12,084	10,284	57.36	32.40

Table 548.—Farm expenses—Continued.

[000 omitted.]

	Value o. farm prop		Value of	land.	Value of h		Value of plements machin	and	Value of stock	
State and division.	Total.	Per cent of 1910.	Total.	Per cent of 1910.	Total	Per cent of 1910.	Total.	Per cent of 1910.	Total.	Per cent of 1910.
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island. Connecticut. New York. New Jersey. Pennsylvania.	\$270, 527 118, 656 222, 737 300, 472 33, 637 226, 991 1, 908, 483 311, 848 1, 729, 353	135. 8 114. 4 153. 2 132. 7 102. 0 142. 4 131. 5 122. 4 138. 0	\$114, 412 47, 425 82, 938 127, 654 14, 509 101, 187 793, 336 142, 182 726, 158	96.7 140.1 112.1 114.5	42,571 76,179	102.8 140.5 135.3 91.9 134.7 132.4 116.3	\$26,638 9,499 21,234 19,360 2,409 13,248 169,867 25,459 163,826	183. 8 161. 6 208. 8 167. 4 135. 2 191. 5 203. 1 194. 2 231. 6	\$39,780 19,161 42,386 33,524 4,840 23,472 313,554 36,066 238,775	
N. Atlantic	5, 122, 704	133.9	2, 149, 801	116.6	1,769,805	134.4	451, 540	206.9	751,558	168.1
Delaware Mayland District of Columbia Virginia West Vignna North Carolina South Carolina Georgia Florida	80, 138 463, 638 5, 928 1, 196, 556 496, 440 1, 250, 167 953, 065 1, 356, 685 330, 302	126. 8 162. 0 69. 9 191. 4 157. 7 232. 5 243. 0 233. 7 230. 7	42, 116 259, 094 4, 156 756, 354 30, 310 857, 815 647, 157 897, 445 228, 425	120. 5 159. 0 57. 8 191. 6 148. 4 250. 0 240. 8 242. 3 243. 7	22, 640 126, 693 1, 421 268, 081 103, 474 218, 578 166, 327 240, 854 53, 025	137.0 195.1 180.5 192.6 259.4 221.3	6,781 28,970 104 50,152 18,395 54,622 48,062 63,343 13,552	211. 5 244. 3 112. 9 276. 8 262. 4 296. 2 340. 7 302. 4 304. 8	67,261	162.9 155.2 190.2 202.8 102.9
S. Atlantic	6, 132, 919	207.8	4,000,682	212, 4	1, 201, 093	199. 2	283, 981	289.1	647, 163	176.6
Ohio Indiana Illinois Michigan Wisconsin	3,095,667 3,042,311 6,666,767 1,763,335 2,677,283	162. 7 168. 2 170. 7 161. 9 189. 5	2, 015, 113 2, 202, 566 5, 250, 295 959, 187 1, 618, 913	156. 7 165. 8 169. 9 155. 9 177. 5	646, 323 451, 078 747, 699 477, 499 568, 969	175. 5 169. 5 172. 9 167. 0 196. 4	222,620	286. 2 310. 7 302. 0 245. 2 315. 5	446, 158 204, 259	145, 8 150, 3 144, 5 148, 2 203, 3
N. C. E. Miss. R		170.4	12, 046, 074	166.6	2, 891, 568	176.1	786, 077	292.4	1, 521, 644	155.9
Minnesota. Iowa. Missouri North Dakota. South Dakota. Nebraska. Kansas.	3,787,420 8,524,871 3,591,068 1,759,743 2,823,870 4,201,656 3,302,806	256. 5 227. 6 174. 9 180. 5 242. 2 202. 0 162. 0	2, 594, 193 1, 279, 314 2, 231, 432 8, 330, 222	269. 9 238. 4 179. 4 175. 2 247. 2 206. 3 161. 0	550, 840 922, 752 468, 774 209, 208 241, 462 381, 885 354, 429	202.6 173.5 226.7	138, 261 114, 187	345.1 323.8 271.8 260.1 332.7 346.0 320.3	389, 840 157, 034 238, 568 336, 444	1 140. 1
N. C. W. Miss. R		206.8	21, 340, 145	212.3	3, 129, 350	200.3	1, 162, 938	315. 2	2, 359, 001	
Kentueky. Tennessee. Alabama. Mississippi. Louisiana. Texas. Oklahoma. Arkansas.		195. 4 204. 4 186. 6 226. 3 195. 8 200. 5 180. 8 231. 0	1,050,753 807,782 415,764 641,842 383,618 3,245,209 1,171,459 607,773	216.9 217.5 191.6 252.7 204.3 198.7 180.5 247.0	254, 406 217, 197 127, 894 148, 054 90, 421 454, 965 192, 406 145, 337	199.1 179.4 184.7	53, 463 34, 366 39, 881 32, 715 154, 321 80, 631	231.9 251.1 211.0 235.9 172.4 271.7 297.7 257.5	173, 523 112, 825 134, 975 83, 073 592, 925 215, 928	134. 8 156. 7 172. 0 179. 4 185. 8 186. 1 141. 7 172. 6
S. Central		200.0	8, 324, 200	205.9	1,630,680	197. 9			1, 599, 488	166.8
Montana. Wyoming. Colorado. New Mexico. Arizona. Utah. Nevada. Idaho. Washington. Oregon. Califorma.	985, 961 334, 411 1, 076, 795 325, 186 233, 593 311, 274 99, 779 716, 138 1, 057, 430	283. 5 200. 0 219. 1 203. 9 310. 9 206. 4 165. 2 234. 6 165. 9 155. 0 212. 5	156, 563 210, 998 59, 362 511, 866 797, 651 586, 242	232.7	25, 473 15, 763 32, 754 6, 893 69, 646 122, 741 88, 971	223. 8 195. 6 319. 4 181. 3	49, 805 9, 745 8, 821 13, 515 3, 631 38, 417 54, 721 41, 567	521. 9 321. 1 389. 4 236. 4 493. 4 302. 5 230. 4 366. 7 327. 5 314. 8 372. 9	87, 884 160, 976 93, 627 52, 446 54, 007 29, 893 96, 209 82, 317 101, 779	201. 3 187. 6 155. 6 193. 3 168. 5 171. 2
Far western		206.9		203.7	863, 944	-			1, 134, 470	181.6
United States	77, 924, 100	190.1	54, 829, 563	192.5	11, 486, 440	181.6	3, 594, 773	284.1	8,013,324	162.7

Table 549.—Farms classified by size.

			Pe	rcentas	ge of al	l farms	in Sta	ate.				Aver-	
State and division.	Un- der 3 acres	3 to 9 acres	10 to 19 acres	20 to 49 acres.	50 to 99	100 to	175 to 259 acres.	260 to 499	500 to 999 acres	1,000 acres and over.	A verage acreage per farm.	age acre- age of im- proved land per farm.	Total number of farms.
Maine	2.7 1.5	P.ct. 4.1 6.6 6.0 13.7 9.5 9.1 6.6 10.4 7.4	P.ct. 5.0 7.0 5.3 13.3 11.9 10.9 6.6 12.7 7.9	P.ct. 14.0 16.4 10.1 23.5 24.1 24.4 14.1 22.8 18.0	P. ct. 29.6 23.8 17.9 21.4 25.3 25.6 26.3 24.8 30.7	P.ct. 29.9 24 3 30.2 15.3 17.6 18.5 29.5 21.0 26.1	P.ct. 10.8 11.3 17.5 5.7 5.6 6.5 11.0 4.9 6.6	P.ct. 5.1 7.3 10.7 3.3 3.1 3.4 4.8 1.6 2.3	P.ct. 1.0 2.1 1.9 .8 1.1 .7 .5 .3	P.ct. 0.2 .7 .3 .3 .2 .1	Acres. 112.5 126 9 145.7 77.9 81.2 83.8 106.8 76.8 87.3	Acres. 41.0 34.2 58.2 28.4 32.5 30.9 68.1 52.4 58.6	Number. 48,227 20,523 29,075 32,001 4,083 22,655 193,195 29,702 202,250
N. Atlantic	.7	7.3	7.7	16.8	27.2	26.5	9.0	4.0	.6	.2	99.0	56.2	581,711
Delaware. Maryland Dist. of Columbia Virginia. West Virginia. North Carolina. South Carolina. Georgia Florida.	.2 .3 15.2 .2 .2 .1 .2 .1	4.7 10 2 17.2 7.6 5.1 4.9 5 4 2.0 7.0	7.1 10.4 29 9 11.8 6.6 14.0 15.6 6 6 11.8	21. 5 17. 6 24. 5 24. 6 20. 8 32. 3 44. 1 43. 3 35. 9	29.1 20.3 8.8 22.9 29.3 25.5 19.5 26.1 20.1	24.8 23.4 2.5 18 3 22.4 15.2 9.4 13 3 14.1	8.5 10.3 .0 7.5 8.6 4.6 2.9 4.5 4.8	3.5 6.2 2.0 5.2 5.1 2.5 1.9 2.9 3.5	.5 1.0 .0 1.5 1.4 .6 .7 1.0	(1) .2 .0 .4 .4 .2 .3 .4 .7	93.1 99.3 27.8 99.7 109.6 74.2 64.5 81.9 112.0	64. 4 65. 5 20. 9 50. 8 63. 2 30. 4 32. 1 42. 0 42. 5	10,140 47,908 204 186,242 87,289 269,763 192,693 310,732 54,005
S. Atlantic	.2	4.9	11.1	34.6	24.2	15 1	5.3	3.3	1.0	.3	84.4	41.9	1,158,976
Ohio Indiana Illinois Michigan Wisconsin	.3 .3 .2 .2	5. 9 4. 6 3. 2 2. 9 2. 6	6.1 4.8 3.6 3.4 2.5	17.3 17.0 11.4 20.8 13.1	33.6 31.7 21 9 36.3 32.1	27. 2 28. 2 34. 3 26. 8 33. 6	6.8 8.9 16.5 6.7 10.8	2.5 3.9 8.0 2.5 4.6	.3 .4 .7 .3	(¹) .1 .1 .1 .1	91.6 102.7 134.8 96.9 117.0	72. 2 81. 3 115. 1 65. 8 65. 8	256,695 205,126 237,181 196,447 189,295
N.C.E.Miss. R.	.2	3.9	4.2	15.9	30.9	30.0	10 0	4.3	.5	.1	108.5	81.0	1,084,744
Minnesota Towa Missouri North Dakota South Dakota Nebraska Kansas	$\begin{array}{c} \cdot 2 \\ \cdot 2 \\ \cdot 2 \\ (^{1}) \\ \cdot 1 \\ \cdot 1 \\ \cdot 2 \end{array}$	1.6 2.7 2.7 2.7 .5 1.3 2.3	1.7 2.5 3.4 .2 .5 1.3 2.0	7.9 6.1 15.6 .7 1.3 3.0 5.0	18.3 16.8 25.6 1.2 3.2 9.0 12.3	36.9 40 1 30.2 14.8 22.1 34.7 29.7	17. 4 19. 4 12. 7 7. 2 12. 8 17. 3 16. 1	14.1 11.2 7.9 47.0 37.2 20.8 22.7	1.7 .9 1.4 23.7 15.6 7.8 7.3	5.1 6.8 4.8	169.3 156.8 132 2 466.1 464.1 339.4 274.8	120. 4 134. 0 94. 4 316. 2 243. 8 185. 7 185. 1	178, 478 213, 439 263, 004 77, 690 74, 637 124, 417 165, 286
N.C.W.Miss.R.	.2	2.0	2,0	7.4	15.6	32.0	15.4	18.0	5.6	1.8	234.3	156,2	1,096,951
Kentucky Tennessee Alabama Mississippi Louisiana Texas Oklahoma Arkansas	.6 .1 .1 .3 .2 .1 .1	8.5 4.8 3.5 3.0 3.0 1.6 1.0 2.3	12.7 12.7 9.6 21.2 18.9 4.1 2.1 13.0	23. 5 31. 6 44. 1 42. 9 45. 3 25. 3 17. 0 39. 7	26.3 25.7 22.4 15.4 16.0 27.4 22.6 21.8	18.8 16.3 12.7 10.4 9.5 22.2 34.5 15.6	5.8 5.2 3.9 3.1 7.4 8.3	3.0 2.8 2.6 2.5 2.4 6.3 11.1 2.5	.6 .8 .7 .9 2.9 2.4 .5		79. 9 77. 2 76. 4 66. 9 74. 0 261. 5 166. 4 75. 0	51. 6 44. 3 38. 6 34. 3 41. 5 71. 6 94. 4 39. 6	270, 626 252, 774 256, 099 272, 101 135, 463 436, 033 191, 988 232, 604
S. Central	.2	3.5	11.1	32.7	23.0	17.8	5.4	4.2	1.3	.8	123. 2	53.0	2,047,688
Montana Wyoming Colorado New Mexico Arizona Utah Nevada Idaho Washington Oregon California	1.4	.7 3.8 12.5 7.6 3.9 2.8 9.9 6.1 11.7	.8 3.7 8.9 7.4 9.3 3.3 12.9 8.1 14.8	2. 2 2. 5 7. 4 10. 4 23. 7 25. 5 13. 8 16. 2 23. 0 17. 4 27. 0	3.7 6.3 9.9 6.7 17.1 19.8 17.5 20.2 13.7 16.5 12.8	15. 1 16. 2 20. 3 16. 5 22. 4 15. 9 19. 3 25. 1 15. 0 19. 4 11. 2	5. 9 5. 9 6. 7 3. 9 3. 7 6. 9 7. 2 8. 7 5. 0 8. 5	40. 9 32. 3 29. 4 19. 6 9. 8 8. 2 13. 4 16. 2 9. 5 12. 5 7. 1	20.8 22.4 12.5 10.7 4.8 3.3 9.0 5.2 6.1 6.7 4.3	13. 2 5. 7 9. 4 4. 0 2. 4 11. 5 1. 4 4. 4	608.1 749.9 408.1 817.9 581.7 196.8 745.2 198.9 199.8 269.7 249.6	190. 8 133. 5 129. 2 57. 5 71. 5 66. 8 188. 0 107. 2 107. 6 97. 9 100. 9	57,677 15,748 59,934 29,844 9,975 25,662 3,163 42,106 66,288 50,206 117,670
Far Western	1.2	7.0	8.4	17.0	12.4	16.5	5.9	17.4	8.9	5.3	362.7	113.0	478,273
United States	.3	4.2	7. 9	23. 3	22.9	22.5	8.2	7.4	2.3	1.0	148.2	78.0	6,448,343

Table 550.—Total population, total land area, farm area, improved, woodland, and other unimproved area, and their percentages in 1920, by States.

[000 omitted]

				[000]	mrred	1						
	cion.	tion.	8		Land ir	farms.		Perce of la	and		centag -land s	
State and division.	Total population.	Farm population	Total land area.	Total.	Improved.	Woodland	Other unim- proved.	In farms	Improved	Improved.	Woodland.	Other unim- proved.
Maine New Hampshire Vermont Massachusetis. Rhode Island Connectacut New York New Jersey Pennsylvania	No. 768 443 353 3,852 604 1,381 10,385 3,156 8,720	No. 198 76 125 119 15 93 801 144 948	A cres. 19, 133 5, 780 5, 839 5, 145 683 3, 085 30, 499 1, 809 28, 692	2, 494 332 1, 899 20, 633	133 701	A cres. 2, 448 1, 300 1, ±28 1, 030 684 4, 161 455 4, 044	Acres. 1,001 601 1,116 555 68 514 3,314 272 1,766	P. ct. 28. 4 45. 1 72. 5 48. 6 61. 6 67. 7 47. 5 61. 5	P. ct. 10.3 12.2 29.0 17.7 19.5 22.7 43.1 33.4 41.3	P. ct. 36. 4 27. 0 39. 9 36. 4 40. 2 36. 9 63. 8 68. 2 67. 1	P. ct. 45.1 49.9 33.7 41.3 39.2 36.0 20.2 19.9 22.9	P. ct. 18.5 23.1 26.4 22.3 20.6 27.1 16.0 11.9 10.0
N. Atlantic	29, 662	2,519	103, 665	57, 564	32, 677	15,680	9, 207	55.5	31. 5	56.8	27. 2	16.0
Delaware Maryland Dist, of Columbia Virginia West Virginia North Carolina South Carolina Georgia Florida	223 1, 450 438 2, 309 1, 464 2, 559 1, 684 2, 896 967	1,065 478 1,501	1, 258 6, 362 38 25, 768 15, 374 31, 194 19, 517 37, 584 35, 111	20, 022	653 3, 137 4 9, 461 5, 520 8, 198 6, 184 13, 055 2, 297	223 1, 327 1 7, 907 3, 469 10, 299 5, 303 10, 492 2, 781	69 294 1 1, 193 580 1, 524 940 1, 894 968	62. 2 64. 2 63. 7	51. 9 49. 3 10. 5 36. 7 35. 9 26. 3 31. 7 6. 5	69. 2 65. 9 66. 7 51. 0 57. 7 40. 9 49. 8 51. 3 38. 0	23.6 27.9 16.7 42.6 36.2 51.5 42.6 41.2	16.6 6.4 6 1 7.6 7.6 7.5
S. Atlantic	13, 990	6, 417	172, 206	97, 775	48, 509	41,802	7,463	56.8	28. 2	49.6	42.8	7.6
Ohio Indiana Illinois Michigan Wisconsin	5,760 2,930 6,485 3,669 2,632	1, 140 907 1, 098 849 920	26, 074 23, 069 35, 868 36, 787 35, 364	23, 516 21, 063 31, 975 19, 033 22, 148	18, 542 16, 680 27, 295 12, 926 12, 452	3, 199 3, 141 3, 102 3, 217 5, 402	1,775 1,242 1,578 2,890 4,294	1 91.3	76.1 35.1	85.4	9.7 16.9	5.9 4.9 15.2
N.C.E.Miss R	21, 476	4, 914	157, 162	117, 735	87, 895	18,061	11,779	74.9	55.9	74.7	15.3	10.0
Minnesota Iowa Missouri North Dakota South Dakota Nebraska Kansas	2, 387 2, 404 3, 404 647 637 1, 296 1, 769	897 985 1, 211 395 362 584 737	51, 749 35, 575 43, 985 44, 917 49, 196 49, 157 52, 335	30, 222 33, 475 34, 775 36, 215 34, 630 42, 225 45, 425	21, 482 28, 607 24, 833 24, 563 18, 199 23, 109 30, 601	4, 483 2, 295 8, 554 680 536 901 1, 313	10, 972 15, 901 18, 215	80.6	37.0 47.0	71.4 67.8	24.6 1.9 1.6 2.1	7.6 4.0 30.3 45.9 43.2
N.C.W. Miss. R.	12, 544	5, 171	326, 914	256, 973	171, 394	18,762	66, 817	78.6	52.4	66.7	7.3	26.0
Kentucky. Tennessoe. Alabama. Mississippi Louisiana Texas. Oklahoma Arkansas.	2, 417 2, 338 2, 348 1, 791 1, 799 4, 663 2, 028 1, 752	1, 305 1, 272 1, 336 1, 270 786 1, 017 2, 278 1, 147	25, 716 26, 680 32, 819 29, 672 29, 062 167, 935 44, 425 33, 616	19, 511 19, 577 18, 197	13, 976 11, 185 9, 893 9, 326 5, 626 31, 228 18, 125 9, 211			61.3 34.5 67.9 71.9	19. 4 18. 6 40. 8	50. 5 51. 3 56. 1 27. 4 56. 7	42. 4 38. 6 36. 1 12. 7 13. 2	6.4 7.1 10.1 7.8 59.9 30.1
S. Central		10, 411	389, 925		108, 570			64.7	27.8	43.0	23.0	34.0
Montana Wyoming. Colorado New Mexico. Anzona Utah Nevada Idaho Washington. Oregon. California	549 194 940	226 67 266 161 91 140 16 201 283 214 517	78, 402 72, 838 52, 598	35, 071 11, 809 24, 462 24, 410 5, 802 5, 050 2, 357 8, 376 13, 245 13, 542 29, 366	7, 710 595 4, 512 7, 129 4, 914	29 821 1,813 2,310	9, 280 15, 302 20, 875 4, 566 3, 122 1, 734	18.9 36.9 31.1 8.0 9.6 3.4	11.7 2.2 1.0 3.3 .9 8.5 16.7 8.0	17. 8 31. 7 7. 0 12. 3 34. 0 25. 2 53. 9 53. 8 36. 3	3. 6 5. 8 7. 4 9. 0 4. 2 1. 2 9. 8 13. 7 17. 1	78. 6 62. 5 85. 6 78. 7 61. 8 73. 6 36. 3 32. 5 46. 6
Far Western					-		104, 201	-		31.1	8.8	60.1
Tar AA G2 GETTT	0, 800	2, 102	100, 410			107 7701			26.4	52.6	17.	29.9

RATES OF FOREIGN EXCHANGE.

Table 551.—Average monthly rates of exchange at New York, 1912-1922.1

ARGENTINE PESOS (PAPER)

Year.	Jan	Feb.	Mar.	Apr	Мау.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec
1912 1913 1914 1915	42,510	42.878 42.522	42.604 42.720 42.540 42.925	42.535 42.365	42.470 42 230	42. 395 42. 230	42, 260 42, 246	42.510 42.110 243.465 41.385	42, 110 44, 683	42.110 43.042	42.110 43.428	42.110 43 720
1916. 1917. 1918. 1919.	42.652 44.17 44.82 44.804	43.96 43.895	43. 158 43. 402 44. 062 44. 328	42.642 44.472	43. 262 45. 192	43.918 44.820				43.768 44.712	45.600 44.828	46.680 45.018
1920. 1921. 1922.		35.078	43. 320 34. 122 36. 423	32.476	31.585	30.782	28. 952	37.657 29.284 36.117	30.637	32, 154	32.329	32.914

¹ International Yearbook of Agricultural Statistics, page 505, through June, 1921. Average of weekly quotations, Federal Reserve Board Bulletin, July, 1921. Average monthly rate of exchange.

² Interpolation, no quotation.

EGYPTIAN TAJ ARI.1

Year.	Jan	Feb.	Mar.	Apr.	Мау.	June.	July.	Aug.	Sept	Oct.	Nov.	Dec.
1912. 1913. 1914. 1915. 1916. 1917. 1918. 1919. 1920.	100. 345 100. 144 99. 965 99. 582 97. 505 97. 605 97. 585 97. 726 75. 864	99, 928 99, 855 99, 138 97, 652 97, 538 97, 580 97, 702 68, 660	100. 310 99. 845 99. 685 98. 708 97. 740 97. 576 97. 552 96. 480 74. 123	99. 980 99. 832 99. 828 98. 372 97. 770 97. 670 97. 598 95. 525 80. 088	97.600 95.808 78.934	99. 992 99. 690 99. 912 97. 955 97. 575 97. 526 97. 570 94. 588 79. 642	99. 972 99 662 100. 158 97. 738 97. 592 97. 608 97. 560 91. 395 78. 362	100, 090 99, 952 103, 630 96, 335 97, 590 97, 680 97, 618 88, 036 73, 498	Cents. 100. 042 100. 120 103. 292 96. 232 97. 612 97. 628 97. 630 85. 518 72. 510 76. 810	100. 412 100. 244 102. 552 96. 144 97. 698 97. 572 97. 675 85. 560 70. 876	99. 980 99. 912 100. 962 95. 805 97. 698 97. 776 97. 712 84. 334 70. 565	100. 005 99. 768 100. 236 96. 840 97. 644 98. 08 97. 710 78. 442 72. 482

¹ International Yearbook of Agricultural Statistics, 1921, page 506.

INDIAN RUPEE-CENTS PER RUPEE.1

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1919. 1920. 1921. 1922.	44. 125 28. 574	95.650 45.500 28.938 28.143	47. 250 26. 906	46.500 26.100	43.500 26.344	40.875 25.422	37.875 23.059	35. 750 24. 224	33.788 26.390	30.625 27.419	29. 375 26. 874	27. 250 27. 449

¹ January-September, 1919, highest rate for month. Federal Reserve Board Bulletin, January, 1921, page 31. October, 1919-December, 1920, average between high and low quotations for month, Federal Reserve Board Bulletins. January, 1921-June, 1921, average of weekly high and low quotations for month, Federal Reserve Board Bulletins. July, 1921 to date, average rate of exchange, Federal Reserve Board Bulletins.

POUND STERLING.1

Year.	Jan.	Feb.	Mar.	Apr.	May	June.	July	Aug.	Sept.	Oct.	Nov.	Dec.
1913 1914 1915 1916 1917 1918 1919 1920 1921	4. 86880 4. 8623 4. 84219 4. 75062 4. 75672 4. 7525 4. 7575 3. 67 3. 75625	4. 8570 4. 82062 4. 75906 4. 755 4. 7525 4. 7575 3. 37625	4. 87288 4. 86275 4. 8018 4. 76412 4. 75438 4. 7525 4. 70 3. 77125 3. 9150	4. 86875 4. 8698 4. 7945 4. 76484 4. 75672 4. 7550 4. 65125 3. 9130 3. 93	4 8651 4 88312 4 7925 4 75812 4 75547 4 7550 4 65625 3 85 3 9775	4. 86700 4. 88488 4. 77547 4. 75788 4. 75438 4. 75375 4. 61250 3. 9475 3. 7725	4. 8678 4. 8878 4. 76475 4. 75766 4. 75531 4. 7525 4. 4275 3. 8525 3. 63213	4. 8640 5. 000 4. 70625 4. 7575 4. 7545 4. 75625 4. 2725 3. 62 3. 65363	4. 85675 4. 98125 4. 69125 4. 75738 4. 75484 4. 7550 4. 18 3. 5125 3. 7240	4. 85800 4. 953 4. 68575 4. 75672 4. 75219 4. 7550 4. 17125 3. 4730 3 87289	4. 85262 4. 90312 4. 67062 4. 75672 4. 7575 4. 08125 3. 42. 50 3. 97020	4. 8535 4. 8715 4. 72075 4. 74788 4. 75172 4. 7575 3. 76875 3. 49125 4. 15611
	j	l .	i i					1			ľ	i

CARLOAD WEIGHTS.

TABLE 552.—Average weight per carload of freight originating on Class I railroads in the United States for the quarter ending June 30, 1920, calendar year 1921 and nine months of 1922.

[Interstate Commerce Commission]

.	Averag (m tor	e weight per is of 2,000 po	carload unds).
Commodity.	April, May, and June, 1920.	Calendar year 1921.	Nine months, 1922.
Wheat Corn Oats Flour and meal Hay, straw, and alfalfa Tobacco Cotton Citrus fruits Potatoes Horses and mules. Cattle and calvos. Sheep and goats Hogs Poultry Eggs Butter and cheese Wool Sugar, strup, glucose, and molasses Canned goods Anthractic coal Bituminous coal. Textales Lumber, timber, box shooks, staves, and headings	30.9 12.9 12.4 17.5 18.7 11.7 10.3 9.7 11.5 11.6 12.6 28.0 24.8 48.0	Tons 39.9 38.1 30.5 25.6 12.5 10.9 11.6 16.2 18.2 11.4 11.6 9.7 9.5 10.9 11.2 2 12.2 27.7 23.1 47.7 50.4 11.8 26.0	Tons 38 8 8 5 29 6 24 5 5 12.3 11 13 11 5 5 9 8 6 10.9 11.1 12.3 11 7 22.8 47 9 58.1 11 6 23 8

Table 553.—Index numbers showing changes in freight rates of 50 representative agricultural products, by months, years 1900 to 1922, inclusive.

[Average for year 1913=100.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oet	Nov	Dec.	Yearly aver- age.
1900	105. 7	105. 7	103. 8	103. 4	103. 7	103. 6	103. 7	103. 5	103. 4	103. 5	103. 9	103. 9	104.0
1901	103. 8	104. 4	104. 4	104. 4	104. 3	103. 5	103. 1	103. 1	103. 1	103. 4	103. 9	103. 9	103.8
1902	103. 9	103. 9	103. 9	103. 9	103. 7	103. 6	103. 3	103. 1	102. 8	102. 7	102. 7	103. 6	103.4
1903	103. 9	103. 6	103. 5	103. 5	103. 1	102. 9	103. 0	102. 9	102. 8	102. 6	102. 9	103. 7	103.2
1904	103. 5	102. 7	102. 1	102. 0	90. 8	101. 9	102. 3	102. 3	102, 3	102. 3	102. 3	105. 2	101.6
1905 1906 1907 1908	101. 4 101. 0 100. 2 99. 7 100. 0	101. 8 101. 0 98. 3 90. 7 100. 0	101. 7 101. 0 100. 2 99. 7 99. 9	101. 9 101. 0 100. 4 99. 7 99. 9	101. 5 101. 0 100. 3 99. 9 99. 9	101. 0 101. 0 100. 3 100. 1 99. 9	100 8 100 8 100.4 100 1 99 9	100. 7 100. 3 100. 2 100. 5 100. 0	100. 8 100. 1 99. 9 100. 5 100. 1	100. 8 100. 1 99. 7 100. 6 100. 1	100. 8 100. 1 99. 7 100. 4 99. 9	100. 8 100. 2 99. 7 100. 4 99. 9	101. 2 100. 6 99. 9 100. 1 100. 0
1910 1911 1912 1913	99. 9 100. 4 100. 5 100. 5 99. 3	100. 3 100. 4 100. 4 100. 5 99. 4	100. 3 100. 4 100. 4 100. 5 99. 4	100. 3 100. 4 100. 4 100. 5 99. 4	100. 3 100. 4 100. 4 100. 5 99. 4	100. 5 100. 4 100. 4 100. 5 99. 4	100. 5 100. 4 100. 4 100. 2 99. 4	100. 5 100. 4 100. 4 99. 5 99. 4	100. 5 100. 4 100. 4 99. 3 99. 4	100. 5 100. 4 100. 5 99. 3 99. 4	100. 5 100. 4 100. 5 99. 3 99. 5	100. 4 100. 5 100. 5 99. 3 99. 6	100. 4 100. 4 100. 4 100. 0 99. 4
1915	99. 7	100. 0	100. 2	100. 2	100. 3	100.3	100. 3	100.3	100.3	100. 5	100. 4	100. 4	100. 2
1916	100. 6	100. 6	100. 6	100. 6	100. 6	100.6	100. 6	100.6	100.7	100. 7	100. 7	100. 7	100. 6
1917	100. 7	100. 7	100. 8	100. 8	100. 8	100.8	100. 8	101.6	101.9	102. 2	102 4	102. 4	101. 3
1918	102. 4	102. 4	102. 4	103. 2	103. 3	108.8	130. 7	130.7	130.7	130. 5	130. 3	130. 3	117. 1
1919	130. 3	130. 3	130. 4	130. 5	130. 5	130. 8	130.8	130. 5	130. 7	131. 4	131. 4	131.6	130. 8
1920	131. 8	131. 8	132. 1	132. 1	132. 1	131. 9	131.7	140. 2	176. 1	176. 1	176. 1	176.3	147. 4
1921	176. 8	176. 8	177. 3	177. 8	177. 8	177. 8	177.7	177. 4	177. 2	176. 1	175. 8	175.8	177. 0
1922	161. 5	161. 4	161. 4	161. 7	161. 5	158. 2	158 0	158. 0	158. 3	159. 0	159 0	159.0	159. 8

RAILWAY FREIGHT TONNAGE.

Table 554.—Tonnage carried on railways in the United States, 1916-1922.1

		CI	ass I roads	,² year end	ing Dec. 31	<u> </u>	
Product.	1916	1917	1918	1919	1920	1921	1922
FARM PRODUCTS.							
Animal matter: Animals, live— Horses and mules	1,000 short tons	1,000 short tons.	1,000 short tons	1,000 short tons	1,000 short tons.	1,000 short tons. 430	1,000 short tons
Cattle and calves Sheep and goats Hogs.	17,294	17,906	17,257	19, 395	9,809 1,344 5,421	8,526 1,176 5,506	••••••
Packing-house products— Dressed meats Hides and leather	2,808 1,396	2,966 1,357	3,714 1,303	3,398 1,371	2,770 1,051	2,579 972	
Other packing-house products	2,633	2,567	3, 510	3,736	2,206	2,095	
Total packing-house prod- ucts	6,837	6,890	8, 527	8, 505	6,027	5,646	
Eggs 3 Butter and cheese 3 Poultry (including game					536 425	551 435	
Poultry (including game and fish) Wool Other animal matter	1,097 505 4,741	1,022 499 5,541	1,154 494 6,338	1,322 547 5,721	264 293 1,540	276 400 1,327	
Total animal matter	30, 473	31,858	35,770	35, 494	26, 595	24, 273	
Vegetable matter: Cotton	4,212 17,621	3, 552 17, 679	3, 550 18, 736	3, 803 19, 726	3,379 10,045 4,118	3,186 9,204 4,639	
Grain and grain products-							
Grain— Wheat. Corn. Oats. Other grain. Grain products— Flour.	55,685	46,372	55, 867	52, 375	$\left\{\begin{array}{c} 23,131\\ 12,689\\ 8,615\\ 5,669\end{array}\right.$	29, 041 17, 219 7, 543 4, 569	
FlourOther grain products Total grain and	10,319 8,234	10,065 8,413	10,588 8,630	11,670 9,079	10, 952 8, 891	10, 554 7, 881	
grain products	74, 238	64,850	75,084	73, 123	69, 917	76, 807	
Hay Sugar, sirup, glucose, and	7,243	8, 314	8, 239	7,483	7,957	5, 163	
molasses	3,762 1,016 9,305	4,235 1,029 9,204	4,204 1,160 9,257	4,934 1,293 9,601	5,664 1,081 15,250	4, 767 933 15, 169	
Total vegetable matter	117,398	108,865	120, 230	119, 967	117, 441	119,868	
Canned goods (food products)8					3,074	2,626	
Total farm products	147, 871	140, 723	156,000	155, 461	147,110	146,767	
OTHER FREIGHT.							
Products of mines	680, 123 93, 819 185, 025	732,656 100,838 188,796	734, 791 97, 043 176, 197	589, 951 94, 076 163, 825	712, 154 100, 766 242, 189	510, 860 76, 923 163, 699	
All other (including all freight in less than carload lots)	95, 162	101,006	99, 032	92, 799	53, 202	42,080	
Total tonnage	1, 202, 000	1, 264, 019	1, 263, 063	1,096,111	1, 255, 421	940, 329	

Compiled from reports of the Interstate Commerce Commission. Original shipment only, excluding freight received by each railway from connecting railways and other carriers.
 Roads having annual operating revenues in excess of \$1,000,000.
 Not separately stated prior to 1920.

FREIGHT RATES

Table 555.—Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913.

[Rates are in cents per 100 pounds]

	Rate.	Index No.	Remarks.		Rate	Index No.	Remarks.
Rate No. 1— Wheat: From Larumore, N. D., to Minneapolis, Minn.: Average, 1913. Jan. 1, 1900. Aug. 28, 1902. Sept. 1, 1905. Sept. 1, 1905. June 25, 1918. Aug. 26, 1920. Jan. 1, 1922. Jan. 1, 1922. Jan. 1, 1923. Rate No. 2— Wheat. From Tracy, Minn., to New Ulm, Minn.	12. 5 12 15 20. 5 17. 5 17. 5	100. 0 125. 0 120. 8 104. 2 100. 0 125. 0 170. 8 145. 8	Aug., 1902-124, 5 June, 1918-105, 0 Aug., 1920-133, 9	Rate No. 5— Wheat: From Chicago, Ill., to Buffalo, N. Y.— Continued. Aug. 15, 1912 Feb. 10, 1914 June 7, 1918 June 25, 1918 June 25, 1920 Aug. 26, 1920 Aug. 26, 1920 Jan. 1, 1922 Bate No. 6— Wheat: From Wichtta, Kans, to Galveston, Tex. (for ex-	Cents 14.5 15.5 20.5 21 29.5 26.5 26.5	100. 0 103. 4 113. 8 141. 1 144. 8 203. 4 182. 8 182. 8	Aug., 1912=101.5 Feb., 1914=102.3 June, 1918=117.2 Feb., 1920=141.5 Aug., 1920=156.1
Average, 1913.	10	100.0 119.9 75.5	July, 1913=104.1	port): Average, 1913.	25	100.0	
July 21, 1913 June 25, 1918 Dec. 20, 1920 Jan. 1, 1922 Jan. 1, 1923 Rate No. 3 Wheat: From Hays, Kans., to	8 11 9.5 9.5	95. 9 131. 9 113. 9 113. 9	July, 1913=104.1 June, 1918= 79.6 Dec., 1920=109.8	Jan. 1, 1900 Aug. 15, 1902 Dec. 15, 1902 Feb. 1, 1904 Feb. 6, 1904 June 10, 1904 Aug. 22, 1905	34 28. 5 30. 5 27. 5 25. 5 28. 5 27 27. 75	136.0 114.0 122.0 110.6 102.0 114.0 108.0 111.0	Aug., 1902=123.9 Dec., 1902=118.4 Feb., 1904=103.4 June, 1904=110.4 Aug., 1905=112.1
Denver, Colo.: Average, 1913 Jan. 1, 1900 June 25, 1918 June 25, 1918 June 15, 1920 Aug. 26, 1920 Dec. 29, 1921 Jan 1, 1923 Rate No. 4—	30 36 31 42 35. 5 36. 5	100. 0 100. 0 120. 0 103. 3 140. 0 121. 7 121. 7	June, 1918=104.0 June, 1920=111.1 Aug., 1920=110.4 Dec., 1921=137.0	Feb. 6, 1904. June 10, 1904. Aug. 22, 1905. Oct. 1, 1905. Jan. 1, 1906. July 12, 1906 July 30, 1906. Aug. 11, 1906. Sept. 10, 1906. May 2, 1907. July 15, 1907 Sept. 2, 1907. Feb. 5, 1916.	28. 5 27. 25 24. 5 27. 25 28. 5 26. 5 27. 75	114.0 169.0 98.0 109.0 114.0 106.0 111.0 100.0	July, 1906=110.1 Aug., 1906=105.5 Sept., 1906=112.5 May, 1907=106.3 July, 1907=108.7 Sept., 1907=100.4
Wheat: From Cmcmnat, Oho, to Atlanta, Ga.: Average, 1913 Jan. 1, 1900 Feb. 28, 1990 Apr. 18, 1990 Sept. 1, 1905 Sept. 1, 1908 Sept. 1, 1918 June 25, 1918 Aug. 26, 1920 Jan. 1, 1922		100. 0 100. 0 87. 5 100. 0 91. 7 100. 0 104. 2 131. 2	Feb., 1900= 99.1 Apr., 1900= 92.9 June, 1918=109.6	Feb. 18, 1917. June 25, 1918. Dec. 30, 1919. Aug. 26, 1920. June 1, 1922. Jan. 1, 1923. Rate No. 7.— Wheat: From Riparia, Wash, to Portland,		102. 8 106. 0 146. 0 150. 0 202. 0 176. 0	Feb., 1916=102.4 Feb., 1917=104.4 June, 1918=114.0 Dec., 1919=146.3 Aug., 1920=160.1
Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1923 Rate No. 5- Wheat: From Chicago, Ill., to Buffalo, N. Y.: Average, 1913. Jan. 1, 1900	00.0	164. 6 147. 9 147. 9	Aug., 1920=137.7	Oreg: Average, 1913 Jan. 1, 1900 Feb. 2, 1903 Nov. 1, 1909 June 25, 1918 Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1923 Rate No. 8.— Wheat: From	15 19 16.25 15 19 24 21.5 21.5	100. 0 125. 7 108. 3 100. 00 126. 7 160. 0 143. 3 143. 3	Feb., 1903=109.0 June, 1918=105.3 Aug., 1920=133.1
Jan. 1, 1900. Mar. 5, 1900. Nov. 1, 1900. June 1, 1901. Oct. 21, 1901. Dec. 8, 1902. May 11, 1903. Dec. 1, 1903. May 2, 1904. Dec. 5, 1904. Feb. 1, 1905. May 9, 1905. Sept. 1, 1905. May 1, 1907. Feb. 1, 1910. Feb. 1, 1911.	11 .9.5 11 12.5 11 12.5 11 12.5 11 12.5 11	93. 1 65. 5 75. 9 65. 5 75. 9 86. 2 75. 9 86. 2 75. 9 86. 2 75. 9 86. 2 103. 4	Mar., 1900= 69.1 Oct., 1901= 69.2 Dec., 1902= 83.9 May, 1903= 79.2 May, 1904= 76.2 Dec., 1904= 84.9 May, 1905= 68.2 Feb., 1911=101.7	New York, N. Y. (domestic): Average, 1913 Jan. 1, 1900 Mar. 5, 1900 Nov. 1, 1900 June 1, 1901 Oct. 21, 1901 Dec. 8, 1902.	22 25. 5 17. 5 19. 5 22. 5 19. 5 22. 5	100.00 115.9 79.5 88.6 102.3 88.6 102.3 113.6	Mar., 1900= 84.2 Oct., 1900= 86.5 Oct., 1901= 93.5 Dec., 1902=111.0 Sept., 1903=113.3 May, 1904=102.7

Table 555.—Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913—Continued.

					1		
	Rate	Index No	Remarks.		Rate	Index No.	Remarks.
Rate No. 8.— Wheat: From Pana, Ill., to New York, N. Y. (domestic)— Continued. Dec. 5, 1904. Feb. 1, 1905. Sept. 1, 1905. Aug. 18, 1906. Apr. 1, 1907. May 1, 1908. Feb. 1, 1910. Jan 20, 1915. Apr. 6, 1918. Dec. 31, 1919. Aug. 26, 1920. Jan 1, 1922. Rate No. 9.—Corr From Charleston, Mo., to San Antonio, Tex.: Average, 1913 Jan. 1, 1900. Dec. 15, 1902. Sept. 17, 1907. June 25, 1918. Aug. 26, 1920. Jec. 15, 1902. Sept. 17, 1907. June 25, 1918 Aug. 26, 1920. Jan. 1, 1920. Jan. 1, 1900.	23 8 26.5 32.5 33.5 47 42.5 42.5 31.5 31.5 41.5 56 44	113. 6 1C2. 3 88. 6 102. 3 93. 2 95. 5 97. 7 100. 0 104. 5 120. 5 147. 7 152. 3 213. 6 193. 2 193. 2 100. 0 131. 7 177. 8 100. 0 131. 7 177. 8	Dec , 1904=112.1 June, 1905= 93 6 Aug., 1906= 98.2 Jan., 1914=103.5 Jan., 1915=105.9 Apr., 1918=118.5 Dec., 1919=1478. Aug., 1920=164.2 Dec , 1902= 97.5 Sept., 1907= 98.3 June, 1918=106.3 Aug., 1920=140.6	Rate No.12—Corn: From Omaha, Nebr., to Bır- mungham, Ala: Average, 1913 Jan. 1, 1900. Oct. 12, 1900. Feb. 26, 1901. Feb. 12, 1904. Feb. 12, 1904. Feb. 12, 1904. Mar. 6, 1904. June 10, 1904. Feb. 9, 1905. Apr. 1, 1905. Oct. 1, 1905. Oct. 1, 1905. July 8, 1906. July 8, 1906. July 8, 1906. July 8, 1906. July 8, 1906. July 1, 1907. Aug. 1, 1908. Jun. 1, 1907. Aug. 1, 1908. Jun. 26, 1920. Nov. 22, 1920. Jan. 1, 1922. Rate No.13—Corn: From Washing- ton Court-House, Ohio, to Providence, R. I.:	134 131 134 132.5 133 134 132.75 133.75 135 37 238 249 262.5 253.5	100. 0 89 2 81. 1 91. 9 83. 8 91. 9 86. 5 81 1 73. 0 91. 9 87. 8 89. 2 91. 2 94. 6 100. 0 102. 7 132. 4 171. 6 168. 9 144. 6	Feb., 1900= 88.1 Oct, 1900= 83.7 Feb., 1901= 90 7 Feb, 1904= 83.1 Ma1., 1904= 71 3 June, 1904= 86.2 Feb., 1905= 86.1 Aug., 1905= 90.4 July, 1906= 89.3 Aug, 1907= 93.4 June, 1918=108.6 Aug., 1920=140.0 Nov, 1920=170.8
Jan. 1, 1923 Rate N. 10 — Corn From Sperry, Iowa, to Los Angeles, Calif.: Average, 1913. Jan. 1, 1909 June 25, 1918 Aug. 26, 1920 June 1, 1922 June 1, 1922 June 1, 1923. Rate No.11—Corn: From Superior, Nebr., to Chicago, Ill.: Average, 1913. Jan. 1, 1900 July 12, 1902 Aug. 15, 1902 Dec. 22, 1902 Dec. 22, 1902	60 75 60 68.5 91.5 72 72 72	100. 0 125. 0 100. 0 114. 2 152. 5 120. 0 120. 0	June, 1918=102.8 Aug., 1920=121.6 July, 1902= 97.9 Aug., 1902=101.3 Dec., 1902=112.0	Average, 1913 Jan. 1, 1900. Aug. 6, 1900. Nov. 1, 1900. Dec. 8, 1902. May 11, 1903. Dec. 1, 1903. Dec. 1, 1903. May 2, 1904. Dec. 5, 1904. Feb. 1, 1905. Sept. 1, 1905. Sept. 1, 1907. Feb. 1, 1910. Jan. 16, 1915. Mar. 30, 1918. June 25, 1918. Aug. 26, 1920. Oct, 15, 1921. Jan. 1, 1921.	17 14. 5 16. 5 18. 5 16. 5 16. 5 16. 5 16. 5	100. 0 91. 9 78. 4 89. 2 100. 0 91. 9 100. 0 89. 2 78. 4 89. 2 97. 3 100. 0 118. 9 145. 9 200. 0 181. 1	Aug , 1900= 80.6 Dec., 1902= 97 6 May, 1903= 94.5 May, 1904= 89.5 Dec., 1904= 98 6 May, 1905= 80.8 Jan., 1915=102.2 Mar, 1918=124.3 Aug., 1920=156.4 Oct., 1921=189.6
Dec 28, 1903. Feb. 4, 1904. Mar. 12, 1904. June 10, 1904. Oct. 2, 1905. July 2, 1906. July 2, 1906. Aug. 2, 1906. July 13, 1907. June 25, 1918. Aug. 2, 2920. Nov. 22, 1920. Jan. 1, 1922. Jan. 1, 1923.	23 21 17 25 24 25 23. 75 21 22. 9 31. 5 42. 5 43. 5	91.7 100.0 137.6 185.6 187.8 148.5 146.3	Dec., 1903=116.8 Feb., 1904= 97.1 Mar., 1904= 80.4 June, 1904= 98.7 Oct., 1905=104.9 July, 1906=103 9 Aug., 1906= 92.1 July, 1907= 96.8 June, 1918=107.5 Aug., 1920=146.9 Nov., 1920=186.3	Rate No. 14— Oats: From Mc- Intosh, Minn. to Minn eapolis, Minn. Average, 1913. Jan. 1, 1900 Sept. 1, 1906 Aug. 20, 1913. Jan. 23, 1915. June 25, 1918. Mar. 20, 1919. Aug. 26, 1920. Jan. 1, 1922.	10 4 14 12 11 9 4 10 3 13 14 19 15	100. 0 134. 6 115. 4 105. 8 90. 4 99. 0 125. 0 134. 6 182 7 144. 2	Aug., 1913= 99.8 Jan., 1915= 92.9 June, 1918=104.2 Mar., 1919=128.7 Aug., 1920=143.9

¹ Combination on Belmont, Mo.

² Combination on Cairo, Ill.

Table 555.—Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; ulso index numbers based on average of the year 1913—Continued.

	Rate.	Index No.	Remarks.		Rate	Index No.	Remarks.
Nate No. 15— Oats. From Chariton, Iowa, to New Orleans, La.: Average, 1913. Jan. 1, 1900. Apr. 11, 1901. June 22, 1901. Sept. 10, 1902. Feb. 16, 1909. June 26, 1918. Dec. 1, 1919. Feb. 24, 1820. Aug. 26, 1930. Dec. 3, 1930.	Cents. 21 3 31 3 30 3 25 3 22 21 27 29	100 0 147.6 142.9 119.0 104 8 100.0 128 6 138 1	Apr., 1901=144 5 June, 1901=135.7 Sept., 1902=109.1 Feb., 1909=102 4 June, 1918=104.6	Rate No 19—Hay: From Green Bay, Wis., to Chicago, III.: Average, 1913. Jan. 1, 1900. June 25, 1918. Aug. 26, 1920. Jan 1, 1922. Jan. 1, 1923. Rate No 20—Hay: From Cincinnati, Ohio, to	Cents. 12 5 12 5 15. 5 21 19	100 0 100.0 124 0 168 0 152 0 152 0	June, 1018=104.8 Aug., 1920=132.5
Jan. 2, 1922 Apr. 1, 1922 June 1, 1922 July 1, 1922 Jan. 1, 1923 Rate No. 16	31.5 3 42.5 3 42 3 38.5 3 46.5 8 46 3 43 3 43	150 0 202. 4 200 0 183 3 221. 4 219. 0 204. 8 204 8	Feb., 1920=140 6 Aug., 1920=160 1 Dec., 1920=200. 2 Jan., 1922=183. 8	Atlanta, Ga.: Average, 1913. Jan. 1, 1900. Feb. 1, 1905. Aug. 1, 1908. Jun. 25, 1918. Aug. 26, 1920. July 1, 1922. Jan. 1, 1923.	24 24 22 24 25 31 39 5 35 5 35.5	100 0 100 0 91 7 100 0 104 2 131 2 164 6 147 9 147 9	June, 1918=109.6 Aug., 1920=137.7
bana, Ohio, to New York, N. Y.: Average, 1913. Jan. 1, 1900. Mar. 5, 1900. Nov. 1, 1900. June 1, 1901. Oct. 22, 1901. Dec. 8, 1902. May 11, 1903. Dec. 1, 1903. May 2, 1904. Dec. 5, 1904. Feb. 1, 1905. Sept. 1, 1, 1905. Sept. 1, 1, 1905.	14 12 5 14 5 12 5 16 5 16 5 16 5	100. 0 109. 1 84. 8 75. 8 87. 9 75 8 87. 9 100 0 90. 9 100. 0 87. 9 75. 8	Mar., 1900= 87.9 Apr., 1900= 76.1 Oct., 1901= 80 1 Dec., 1902= 97.3 May, 1908= 93.8 May, 1904= 88.3 Dec, 1904= 98.4 June, 1905= 80 2	Rate No 21—Hay: From Fort Wayne, Ind., to Atlanta, Ga: Average, 1913. Jan. 1, 1900. Feb. 1, 1905. Aug. 1, 1908. Oct. 26, 1914. Jan. 1, 1916. Sept. 19, 1917. June 25, 1918. Aug. 26, 1920. Nov. 30, 1920. Jan. 1, 1922. Jan. 1, 1922.	36 1 37 1 39 5 49 5 64 5	100 0 100 0 94 4 100 0 100 3 103 1 109 7 137 5 179 2 180 6 162 5	Oct., 1914=100.1 Sept., 1917=105.7 June, 1918=115.3 Aug., 1920=145.6 Nov., 1920=179.2
Apr. 1, 1910. Dec. 1, 1914. Dec. 18, 1914. Jan. 18, 1915. Apr. 6, 1918. June 25, 1918. Aug. 26, 1920. Sept. 28, 1921. Jan. 1, 1923. Rate No. 17—Hay: From Auburn, N. Y., to New York City, N. Y.:	16. 5 17. 5 16. 5 17 3 20 25 31. 5 31. 5	87. 9 97. 0 100. 0 106. 0 104. 8 121 2 151. 5 212. 1 190 9 190. 9	Dec., 1914=102.4 Jan., 1915=102.6 Apr., 1918=118.5 June, 1918=127 3 Aug., 1920=163.2 Sept., 1921=210.0	Rate No. 22.—Cotton (com- pressed): From Clarksdale, Miss., to New Orleans, La.: Average, 1913. Oct. 25, 1900.—Feb. 1, 1901.—Dec. 24, 1906. Oct. 1, 1908.—June 25, 1918. Sept. 25, 1919.—Aug. 26, 1920.—Jan. 1, 1922.—Sept. 30, 1922.—Sept. 30, 1922.—Jan. 1, 1922.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1, 1923.—Jan. 1,	32 25 32 29 32 47 62 77. 5 70. 5	100.0 78.1 100.0 90.6 100.0 146.9 193.8 242.2 218.8 239.1	Dec., 1906— 97.6 June, 1918—109.4 Sept., 1919—156.3 Aug., 1920—203.2
Average, 1913. Jan. 1, 1900. Feb. 23, 1915. Aug. 1, 1917. June 25, 1918. Aug. 26, 1920. Jan. 1, 1922. Jan. 1, 1922. Jan. 1, 1923. Rate No. 18—Hay: From Trinidad, Colo., to Kansas City, Mo.: Average, 1913.	15.8 18.22.5 31.5	100. 0 100. 0 105. 3 120 0 150 0 210 0 190. 0 190. 0	Feb., 1915=101.1 June, 1918=126.0 Aug., 1920=161.6	Rate No. 23.—Cotton (com- pressed): From Abilene, Tex., to Galveston, Tex. Average, 1913 June 1, 1905	. 52. 5 . 49	239.1 100.0 93.3	1000, 1007
Coto., to Kansas City, Mo.: Average, 1913. Jan. 1, 1900 Sept. 30, 1915. June 25, 1918 Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1923	25 27 34 46 40	100.0 100.0 108.0 136.0 184.0 160.0	Sept., 1915=100.3 June, 1918=113.6 Aug., 1920=145.3	Aug. 16, 1909 Nov. 19, 1910 Jan. 10, 1914 June 25, 1918 Mar. 18, 1921 Jan. 1, 1922 July 1, 1922 Jan. 1, 1923	52. 5 51 66 89 82 80	107.6 100.0 97.1 125.7 169.5 156.2 152.4 152.4	Aug., 1909—100.7 Nov., 1910—104.6 Jan., 1914—97 9 June, 1918—102.8 Mar., 1921—145.5

Combination on Fast St. Louis.

Table 555.—Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913—Continued.

	Rate	Index No.	Remarks		Rate	Index No	Remarks
Rate No. 24.—Cotton (compressed): From Newport, Ark, to New Orleans, La Average, 1913. Jan. 1, 1900. June 25, 1918. Aug. 26, 1920. Jan. 1, 1922. Sept. 1, 1922. Jan 1, 1923. Rate No. 25.—To-	Cents. 47 47 62 83.5 75 87	100. 0 100. 0 131. 9 177. 7 159. 6 185. 1 185. 1	June, 1918—106.4 Aug., 1920—140.8	Rate No. 29.—Cattle From Clio, Iowa, to Kansas City, Mo.: Average, 1913 Jan. 1, 1906. June 25, 1918 Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1922 Jan. 1, 1923. Rate No. 30 — Cattle From Garretson, S. Dak., to Sioux City,	Cents. 14 14 17. 5 23. 5 21 21	100. 0 100 0 125. 0 167. 9 150. 0	June, 1918—105.0 Aug , 1920—133.3
bacco (leaf): From Burke- ville, Va., to Richmond, Va.: Average, 1913. Jan. 1, 1900. Oct. 15, 1903. June 25, 1918. Aug. 26, 1920. Oct. 10, 1921. Jan. 1, 1922. Jan. 1, 1923. Rate No. 26.—Cat-	15 13 15 19 26. 5 24 21. 5 21. 5	100. 0 86. 7 100. 0 126. 7 176. 7 160. 0 143. 3 143. 3	Oct., 1903= 94 0 June, 1918=105.3 Aug, 1920=136.4 Oct., 1921=164.8	Iowa. Average, 1913. Oct. 1, 1895 Jan. 1, 1900 Jan. 10, 1909 June 25, 1918 Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1922 Rate No. 31.—Cattle: From Red Oaks, Iowa, to Omaha, Nebr	12.5 111 12.5 15.5 21 19 19	100. 0 88 0 88. 0 100. 0 124. 0 168. 0 152. 0	Jan., 1909= 96.5 June, 1918=104 8 Aug , 1920=132.5
tle: From Ama- rillo, Tex, to Kansas City, Mo: Average, 1913. Jan. 1, 1900. Mar. 5, 1903. Nov. 17, 1908. Dec. 30, 1908. Nov. 15, 1911.	31. 5 31. 5 34. 5 33. 5 31. 5	100. 0 100. 0 109. 5 106. 3 100. 0 104. 8	Mar., 1903=108.3 Nov., 1908=108 0 Dec., 1908=105 9 Nov., 1911=102.6	Average, 1913. Jan. 1,1900. Dec. 1, 1909. June 25, 1918. Aug. 26, 1920. Jan. 10, 1922. Jan. 1, 1923. Rate No. 32 — Cattle: From Columbus, Mo, to	9. 2 9. 5 9. 2 11. 5 15. 5 14 14	100. 0 103. 3 100. 0 125. 0 168. 5 152. 2 152. 2	June, 1918=105.0 Aug., 1920=133 4 Jan., 1922=156 9
Jan. 31, 1912 June 25, 1918 Aug. 26, 1920 Sept. 25, 1921 Jan. 1, 1922 Jan. 1, 1923 Rate No. 27.—Cattle: From Bazaar, Kans., to Chicago, Ill.:		100. 0 122. 2 165. 1 158. 7 142. 9 142. 9	Jan., 1912=104.6 June, 1918=104 4 Aug., 1920=130 5 Sept., 1921=163.8	St. Louis, Mo.: Average, 1913. Jan. 1, 1900 May 15, 1910 June 25, 1918 Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1923 Rate No. 33— Hogs: From	13 12 13 16, 5 22, 5 20, 5 20, 5	100.0 92.3 100.0 126.9 173.1 157.7 157.7	May, 1910= 96.5 June, 1918=105.4 Aug., 1920=135.8
Average, 1913. Jan. 1, 1900. May 2, 1902. Sept. 1, 1903. Oct. 5, 1903. June 10, 1911. June 25, 1918. Aug. 26, 1920. Sept. 20, 1921. Jan. 1, 1922. Jan. 1, 1923. Rate No. 28.—Cattle: From Ruthton, Munn., to	33. 25 33. 5 31 32 31 33. 25 40. 5 54. 5 50 49	100. 8 93. 2 96. 2 93. 2	May, 1902= 93.4 Oct., 1903= 93.6 June, 1911= 98.0 June, 1918=104.4 Aug., 1920=129.9 Sept., 1921=159.0	Hogs: From Fort Dodge, Iowa, to Council Bluffs, Iowa: Average, 1913 Jan. 1, 1900 Aug. 4, 1903 May 21, 1908 Apr. 4, 1910 June 25, 1918 Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1923 Rate No. 34 Hogs: From Madison, Nobr.	512.4 512.2	100.00 84.9 83.6 99.7 100.0 126.7 171.2 154.1	Aug., 1903= 83.7 May, 1908= 89.3 Apr., 1910= 100.0 June. 1918= 105.3 Aug., 1920= 135.3
Towa: Average, 1913 Jan. 1, 1900. May 23, 1902. Sept. 5, 1903. Jan. 16, 1907. Apr. 18, 1907. June 25, 1918. Aug. 26, 1920. Jan. 1, 1922. Jan. 1, 1923.	15 17 15 19 25. 5 23	100. 0 120. 0 113. 3 100. 0 113. 3 100. 0 126. 7 170. 0 153. 3 153. 3	May, 1902=118.1 Sept., 1903=101.8 Jan., 1907=106 9 Apr., 1907=107.5 June, 1918=105.3 Aug., 1920=135.1	to Sioux City, Iowa: Average, 1913. Jan. 1, 1900. July 9, 1903. Aug. 6, 1907. Sept. 26, 1907. June 25, 1918. Aug. 26, 1920. July 1, 1922. Jan. 1, 1923.	21. 67 25. 3 25. 5 24. 3 21. 67 27 36. 5 33 33	100. 0 116. 8 117. 7 112. 1 100. 124. 6 168. 4 152. 3 152. 3	July, 1903—117.5 Aug., 1907—113.0 Sept., 1907—110.1 June, 1918—104.9 Aug., 1920—133.1

⁴ Stock cattle 10.5 cents.

⁵ Plus \$4 per car.

Table 555.—Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913—Continued.

	Rate.	Index No.	Remarks.		Rate.	Index No.	Remarks.
Rate No. 35— Hogs: From Beatrice, Nebr., to St. Joseph, Mo.: Average, 1913. Jan. 1, 1900. June 25, 1918. Aug. 26, 1920. Jan. 1, 1922. Jan. 1, 1923. Rate No. 36— Hogs. From Free	29	100. 0 100. 0 126. 5 170. 6 152. 9 152. 9	June, 1918=105.3 Aug., 1920=135.0	Rate No. 41— Oranges: From Fresno, Calif., to New York, N. Y.: Average, 1913. Jan. 1, 1900. Feb. 26, 1907. June 25, 1918. Aug. 26, 1920. Jan. 1, 1922. Jan. 1, 1923.	Cents. 115 125 115 144 192 173 173	100. 0 108. 7 100. 0 125. 2 167. 0 150. 4	Feb., 1907=107.8 June, 1918=105.0 Aug., 1920=133.3
mont, Nebr., to Omaha, Nebr.: Average, 1913 Jan. 1, 1990. Aug. 6, 1907. June 25, 1918. Sept. 1, 1920. Mar. 10, 1921. Jan. 1, 1922. Jan. 1, 1922. Jan. 1, 1923. Rate No. 37— Hogs: From Pa- ola, Kans., to Kansas City, Mo. Average, 1913.	9. 35 11. 5 14. 5 15. 5 14	117.6	Aug., 1907=102. 8 June, 1918=104. 6 Mar., 1921=162. 7	Apples: From Hood River, Oreg., to New York, N. Y.: Average, 1913 June 25, 1918 June 1, 1919 Aug. 26, 1920 July 21, 1921 Jan. 1, 1922 Apr. 24, 1922 Apr. 24, 1922 Jan. 1, 1922	100 125 110	100. 0 100. 0 125. 0 110. 0 125. 0 166. 5 150. 0 166. 5	June, 1918=105.0 Oct., 1918=120.6 Aug. 1920=133.0 July, 1921=160.6
Jan. 1, 1900 Apr. 25, 1900 June 25, 1918 Aug 26, 1920 Jan. 1, 1922 Jan. 1, 1923	9.5 9 11.5 15.5 14 14	100.0 105.6 100.0 127.8 172.2 155.6 155.6	Apr., 1900=104.5 June, 1918=105.6 Aug., 1920=136.4	Rate No. 43— Apples: From Rochester, N.Y., to Philadelphia,		150.0	Apr, 1922=162.7
Hogs: From Ottawa, Kans., to Kansas City, Mo. Average, 1913 Jan. 1, 1900. Aug. 17, 1909. June 25, 1918. Aug. 26, 1920. Jan 1, 1922. Jan. 1, 1923. Rate No. 39	10.5 10 12.5	100. 0 105. 0 100. 0 125. 0 170. 0 155. 0	Aug., 1909=102.6 June, 1918=105.0 Aug., 1920=133.7	Pa. Average, 1913 Jan. 1, 1900 Jan. 1, 1901 Feb. 23, 1915 Aug. 1, 1917 June 25, 1918 Aug. 26, 1920 July 1, 1922 Jan. 1, 1923	15.8 18 22.5 31.5	100.0 105.3 120.0 150.0 210.0 190.0	Feb. 1915=101.1 June, 1918=126.0 Aug., 1920=161.6
Sheep: From Marshfield, Mo., to St. Louis, Mo.: Average, 1913 Jan 1, 1900 Nov. 2, 1903 Nov. 15, 1915. Dec. 15, 1917. June 25, 1918. Aug. 26, 1920. Jan. 1, 1922 Jan. 1, 1923 Rate No. 40— Oranges: From Orange Cuty,	23 21 22 23 21 20 25 34 34 31	100. 0 91. 3 100. 0 91. 3 89. 1 110. 9 150. 0 134. 8 134. 8	Nov., 1903= 99.7 Nov., 1915= 95.4 Dec., 1917= 90.1 June, 1918= 93.5 Aug., 1920=118.5	Rate No. 44— Apples: From Crozet, Va., to Washington, D.C.: Average, 1913. Jan, 1, 1900. Mar. 10, 1903. Mar. 16, 1903. Apr. 12, 1915. June 25, 1918. July 30, 1919. Aug. 26, 1920. Jan. 1, 1922. Jan. 1, 1922.	17 12 15 15.8 20 22.5 31.5 28.5	100. 0 113. 3 80. 0 100. 0 105. 3 133. 3 150. 0 210. 0 190. 0	Apr., 1915=103.4 June, 1918=110.9 July, 1919=134.4 Aug., 1920=161.6
Fla., to Pitts- burgh, Pa.: Average, 1913 Feb. 20, 1900 . June 9, 1901 . July 9, 1901 May 3, 1904 Nov. 20, 1906. Nov. 28, 1906. Sept. 15, 1908. Dec. 15, 1908. June 25, 1918. Aug. 26, 1920.	75. 5 76 75. 5 75. 5 72. 4 75. 5 75. 4 66 67	113.4	June, 1901=113. 2 July, 1901=112. 9 May, 1904=108. 4 Nov., 1906=109. 8 Sept., 1908=90. 3 June., 1918=105. 1 Aug., 1902=133. 5	Rate No. 45—Po- tatoes: From Presque Isle, Me., to New York, N. Y.: Average, 1913. Jan. 1, 1900. Sept. 16, 1912. Nov. 10, 1917. June 25, 1918. Aug. 26, 1920. Apr. 1, 1922.	44 61. 5		Sept., 1912= 95. 3 Nov., 1917=106. 6 June, 1918=115.0 Aug., 1920=148. 1

Table 555.—Statement showing rate changes from January 1, 1900, to January 1, 1923, in the 50 representative freight rates on agricultural products; also index numbers based on average of the year 1913—Continued.

	Rate	Index No.	Remarks.	***	Rate.	Index No.	Remark
Rate No. 46—Potatoes: From Grecley, Colo., to Chicago, Ill. Average, 1913 Jan. 1, 1990 June 25, 1918. Aug. 26, 1920. Jan. 1, 1922 Oct. 1, 1922 Jan. 1, 1923. Rate No. 47—Potatoes: From Idaho Falls to St. Louis, Mo.: Average, 1913 Jan. 1, 1900 Nov. 4, 1908 Feb. 12, 1910 June 25, 1918 Aug. 26, 1920 Aug. 15, 1921 Jan. 1, 1922 Jan. 1, 1922 Jan. 1, 1923 Rate No. 48—Cabbage: From Cort land, N. Y., to New York,	58 55 50 62. 5 83. 5 79. 5 75	100. 0 100. 0 125. 6 170. 0 153. 3 120. 0 153. 3 153. 3 153. 3	June, 1918=105.1 Aug., 1920=134.2 Sept., 1922=122.2 Nov., 1908=110.6 Feb., 1910=103.9 June, 1918=105.0 Aug., 1921=162.6	Rate No 48—Cabbage from Cortland, N. Y to New York, N. Y.—Contd. June 25, 1918 Aug. 26, 1920 July 1, 1922 July 1, 1922 July 1, 1922 Rate No. 49—Butter: From Louisville, Ky., to Chicago, Ill.: Average, 1913 Average, 1913 Average, 1913 June 25, 1918 Aug. 26, 1920 July 15, 1920 Aug. 26, 1920 July 1, 1922 Rate No. 50—Eggs. From Petaluma, Calif., to Chicago, Ill Average, 1913 Average, 1913 Jan. 1, 1902.	31. 5 28. 5 28. 5 35 36. 7 45 56. 5 44. 5 62. 5 56. 5	150. 0 210. 0 190. 0 190. 0 100. 0 101. 9 128. 6 161. 4 127. 1 178. 6 161. 4 161. 4	June, 1918=126.0 Aug., 1920=161.6 Nov., 1914=102.5 Sopt., 1917=113.6 June, 1918=135.2 July, 1920=127.8 Aug., 1920=137.1
N. Y.: Average, 1913. Jan. 1, 1900 Oct. 15, 1915 Aug. 1, 1917 Aug. 9, 1917	15 15 15,8 16 18	100.0 100.0 105.3 106.7 120.0	Oct., 1915=102.9 Aug., 1917=116.6	June 25, 1918 Aug. 26, 1920 Jan. 1, 1922 Jan. 1, 1923	333.5 300	125. 0 166. 8 150. 0 150. 0	June, 1918=105.0 Aug., 1920=133.1

COLD-STORAGE SPACE.

Table 556.—Total refrigerated space of packing houses and cold-storage plants, October, 1922.

Geographic division and State.		Cubic fee	Total			
	Con- cerns.	10° and below.	11° to 29°, inclusive.	30° to 44°, inclusive.	45° and above.	space.
New England: Maine. New Hampshire and Vermont. Massachusetts Rhode Island. Connecticut.	11 6 46 4 6	472,580 25,632 7,657,918 329,788 249,554	422,060 64,629 2,145,567 250,952 317,867	847,040 166,108 14,167,727 773,100 913,306	3,060 719,235 154,458	1,744,740 256,369 24,690,447 1,508,298 1,480,727
Total	73	8,735,472	3, 201, 075	16, 867, 281	876,753	29, 680, 581
Middle Atlantic: New York New Jersey. Pennsylvania	177 35 106	10, 431, 239 3, 694, 315 2, 011, 250	7,573,507 1,430,229 2,215,252	49,647,748 8,315,820 15,922,442	1,634,596 362,328 490,943	69, 287, 090 13, 802, 692 20, 639, 887
Total	318	16, 136, 804	11,218,988	73,886,010	2,487,867	103,729,669

COLD-STORAGE SPACE-Continued.

 $_{\rm TABLE}$ 556 — Total refrigerated space of packing houses and cold-storage plants, Ortober, 1922—Continued.

		Cubic feet	of space hel	d at temperat	ures of—	
Geographic division and State	Con- cerns	10° and below.	11° to 29°, inclusive.	30° to 44°, inclusive.	45° and above.	Total space.
Dast North Central: Ohio Indiana Illinois Michigan Wisconsin.	92 44 94 27 69	1,983,471 524,261 20,982,064 562,815 464,743	1,147,048 765,694 14,823,356 577,903 872,293	15, 691, 874 12, 566, 337 84, 257, 398 4, 792, 947 10, 116, 895	440,326 942,339 7,671,370 214,462 307,524	19, 262, 719 14, 798, 631 127, 734, 188 6, 148, 127 11, 761, 455
Total	326	24, 517, 354	18, 186, 294	127, 425, 451	9,576,021	179,705,120
West North Central: Minnesota	23 43 52 3 7 25 34	2, 240, 387 1, 139, 655 2, 625, 281 111, 095 2, 995, 100 2, 723, 681	2,308,535 1,934,117 4,896,940 32,288 226,660 754,115 4,374,031	12,105,492 18,795,177 23,798,574 179,969 1,623,447 20,932,982 30,028,609	1,634,788 1,954,558 877,704 133,500 1,899,986 4,792,184	18, 289, 202 23, 823, 507 32, 198, 499 212, 257 2, 094, 702 26, 582, 183 41, 918, 505
Total	187	11, 835, 199	14,526,686	107, 464, 250	11, 292, 720	145, 118, 855
South Atlantic: Delaware and Maryland District of Columbia. Virginia West Virginia. North and South Carolina. Georgia. Florida.	23 4 29 16 8 16 8	408, 186 170, 647 625, 576 5, 400 55, 100 16, 200	198, 109 261, 409 468, 821 5, 640 22, 753 455, 957 107, 858	4,245,210 1,926,162 7,094,290 3,168,173 426,800 2,003,791 581,472	676, 804 169, 815 2, 138, 282 30, 760 13, 240 2, 520	5, 528, 309 2, 358, 218 8, 358, 502 5, 317, 495 480, 313 2, 528, 088 708, 050
Total	104	1, 281, 109	1,520,547	19, 445, 898	3,031,421	25, 278, 975
East South Cential: Kentucky. Tennessee. Alabama and Mississippi	17 16 7	342, 884 389, 444 14, 494	252,328 272,900 113,343	3,696,163 3,199,361 821,785	348, 695 4, 666 30, 950	4,640,070 3,866,371 980,572
Total	40	746, 822	638, 571	7,717,309	384, 311	9,487,013
West South Central: Arkansas. Louisiana. () klaboma. Texas.	8 7 13 49	4, 625 109, 500 488, 320 523, 051	9,698 18,875 1,649,316 1,620,978	566, 117 1, 651, 877 4, 799, 929 8, 886, 303	10, 236 38, 320 1, 020, 036 1, 841, 260	590, 676 1, 818, 572 7, 957, 601 12, 871, 592
Total	77	1, 125, 496	3, 298, 867	15,904,226	2,909,852	23, 238, 441
Mountain: Montana Idaho Wyoming Colorado Arizona and New Mexico Utah and Nevada	10 12 3 17 4 8	109, 314 48, 392 155, 417	90,346 39,260 896,100 115,560 70,763	356, 849 403, 898 44, 470 4, 059, 797 484, 287 1, 224, 859	1,350 25,000 24,750 491,076 14,212 7,589	557, 859 516, 550 69, 220 5, 602, 390 614, 059 1, 454, 447
Total	54	464, 359	1,212,029	6,574,160	563,977	8, 814, 525
Pacific Washington Oregon California	42 29 60	836, 055 276, 428 1,087, 456	2,193,587 850,503 1,946,661	8,526,862 2,586,687 13,221,714	1,705,073 198,548 100,747	13, 261, 577 3, 912, 166 16, 356, 578
Total	131	2, 199, 939	4,990,751	24, 335, 263	2,004,368	33, 530, 321
Alaska	5	52,786	497,467	4,472		554,725
Grand total	1,315	67,095,340	59, 291, 275	399, 624, 320	33, 127, 290	559, 138, 225

FARM IMPLEMENTS AND EQUIPMENT.

Table 557.—Farm equipment manufactured in the United States, 1920-21.

[Bureau of the Census.]

	· Manu	factured	Sold in U	nited States	Sold to	r export
Article.	Number.	Value	Number	Value.	Number.	Value
Gas tractors. Stze, belt horsepower— 15 and less— 1920. 1921.	11,044 412	Dollars 4,571,000 291,000	8,711 353	Dollars 280,000	1,007	Dollars.
16 to 22— 1920 1921	147,746 1,012	119, 521, 000 1, 224, 000	119, 371 1, 174	1,201,000	22,461 43	91,000
23 and over— 1920	44,417 2,799	69,471,000 4,146,000	34, 906 4, 250	7, 530, 000	5,675 30 3	435,000
All other— 1921	71,823	44,434,000	1,626	5,661,000	543	666,000
Total— 1920 1921	203,207 76,046	193, 563, 000 50, 095, 000	162,988 10,403	161,896,000 14,675,000	29,143 915	30,850,000 1,219,000
Steam tractors Allsizes— 1920. 1921.	1,766 957	4,661,000 2,293,000	1,401 470	3,903,000 1,051,000	121	370,000 12,000
Plows and listers Horse-drawn plows— 1-horse—						
1920. 1921. Walking (2-horse and larger)—	370, 979 130, 654	2, 532, 000 871, 700	298,653 70,536	428,600	81,442 27,269	224,000
1920 1921 Sulky (1 bottom)— 1920	346,331 177,865	5,707,000 2,133,000	302,425 117,882	1,613,000	77,803 43,091	622,000
1920	51, 911 28, 741	3, 209, 000 1, 571, 000	57, 903 13, 113	794,000	6,176 4,534	265,000
1920 1921 Sulky (3-bottom and	48,601 16,554	4,590,000 1,419,000	40,074 15,030	792,000	15,547 6,315	573,000
larger)— 1920 1921	2,437 2,601	335,000 175,000	2,021 1,271	105,000	359 1,335	86,000
Total— 1920. 1921.	820, 259 356, 415	16, 373, 000 6, 472, 700	701,076 217,832	3,732,600	181, 327 82, 544	1,770,000
Two-way moldboard plows: Walking— 1920. 1921.	41, 127 20, 242	414,000 262,000	21, 472 10, 731	150,000	12,965 8,238	93,000
Sulky— 1920 1921	5,694 6,900	470,000 505,000	5, 229 4, 968	375,000	69 158	13,000
Total— 1920————————————————————————————————————	46, 821 27, 142	884,000 767,000	26, 701 15, 699	525,000	13,034 8,396	106,000
Horse-drawn disk plows: 1 disk— 1920. 1921. 2 disks—	2,927 1,680	143,000 93,000	1,496 520	31,000	123 917	51,000
1920	11, 112 4, 126	911,000 317,000	9, 485 2, 750	205,000	969 1,137	94,000
1920	2,392 1,085	258,000 93,000	1,962 720	60,000	282 316	33,000
Total— 1920 1921	16,431 6,891	1,312,000 503,000	12, 943 3, 990	296,000	1,374 2,370	178,000

Table 557.—Farm equipment manufactured in the United States, 1920-21—Continued.

	Manu	factured.	Sold in Ui	n ted States.	Sold fo	r export.
Article	Number	Value.	Number.	Value.	Number.	Value.
Tractor moldboard plows		Dell		D-11		D-21
1-bottom— 1920 1921	4, 569 3, 290	Dollars. 405, 000 138, 000	3, 297 1, 673	Dollars 63,000	600 197	Dollars
2-bottom— 1920	87, 059 9, 846	8,908,000 892,000	75, 527 15, 529	1,381,000	9,382 1,361	117,00
3-bottom— 1920 1921	44, 509 9, 321	7, 211, 000 1, 332, 000	$38,056 \\ 6,429$	962,000	9,172 1,238	193,00
4 bottom and larger— 1920. 1921.	7, 405 1, 459	1,771,000 264,000	5, 148 666	112,400	1, 103 191	42,60
Total— 1920. 1921.	143, 542 23, 916	18, 295, 000 2, 626, 000	122, 028 24, 297	2, 548, 400	20, 257 2, 957	370, 60
Tractor disk plows: 2 disk—						
1920 1921 3 dısk—	12, 327 3, 334	1,626,000 441,000	10, 116 3, 417	435,000	1, 299 189	27,00
1920 1921	8, 982 3, 125	1, 394, 000 449, 000	6,972 1,260	180,000	1,139 334	51,00
4 disk and larger— 1920	7,007 2,920	1,319,000 541,300	5, 539 1, 543	293, 000	. 712 464	91, 40
Total— 1920 1921	28, 316 9, 379	4,339,000 1,431,300	22,627 6,220	908, 000	3, 150 987	169, 40
Horse-drawn listers: 1 bottom— 1920. 1921.	35, 551 20, 607	869,000 686,000	37, 190 14, 249	491,000	. 359 234	8,00
2 bottom— 1920	3, 232 1, 538	343,000 161,000	2, 501 1, 216	127,000	134	17,0
Total— 1920	38, 783	1, 212, 000 847, 000	39,691 15,465		359 368	25, 0
1921	22, 145	847,000	15, 465	618,000	308	20,0
Tractor-drawn listers: 2 bottom— 1920	3,305 644	314,000 92,000	2, 219 529	75,000	10	2,0
3 bottom— 1921	192	32,000	130	23,000		
Total— 1920 1921	3, 305 836	314, 000 124, 000	2, 219 659	98,000	10	2,0
Plow stocks— 1920 1921	264, 121 115, 324	493, 000 203, 000	288, 694 93, 492	186,000	1,576 507	2,0
Total plows and listers— 1920	1, 361, 578 562, 048	43, 222, 000 12, 974, 000	1, 215, 979 377, 654	37, 699, 000 8, 912, 000	221, 077 98, 169	7, 200, 0 2, 623, 0
Tillage implements: Harrows— Spik-etooth and spring- tooth—						
1 horse— 1920 1921	68, 782 43, 770	447, 000 415, 000	69, 500 19, 493	143,000	1	3,3
2 horse and larger— 1920	111,731	2, 176, 000	105, 886		5, 348	

Table 557 - Farm equipment manufactured in the United States, 1920-21-Continued.

	Manu	factured	Sold in U	nited States	Sold fo	or export
Article.	Number.	Value.	Number	Value.	Number	Value
Tillage implements—Continued. Harrows—Continued. Sections, spike-tooth— 1920	169, 529 175, 740	Dollars 1, 798, 000 1, 422, 000	169, 725 118, 234	Dollars.	13, 961 18, 117	Dollars
1920 1921 Horse-drawn disk—	92,601 82,525	1, 473, 000 1, 042, 000	48, 416 70, 773	769, 000	27, 224 12, 634	241,000
1920 1921	164, 586 80, 403	7, 159, 000 3, 127, 000	151, 198 53, 815	2, 150, 000	11, 894 8, 221	هٔ 14,000
Tractor-drawn disk- 1920	67, 095 38, 118	6, 820, 000 3, 412, 000	59, 715 28, 507	2, 433, 000	3, 589 2, 406	236, 300
Other— 1920 1921	63, 7 32 31, 454	3, 048, 000 896, 000	62, 154 24, 741	694, 000	1,386 1,210	21, 400
Total— 1920 1921		22, 919, 000 10, 314, 000		20, 636, 000 7, 179, 000		1, 665, 000 936, 000
Corn planters. Hand— 1920	33,780	53,000 63,000	34,583 22,950		365	
1921 1 row— 1920	52,211 31,602	o21,000	31,127	24,000	30 581	50
1921 2 row— 1920	23,046 59,627	351,000 3 474,000	13,303 66,475 21,952	222,000	1,207	12,200
1921	35,690 493	1,754,000	364	1,098,000	1,913	23,200
Total— 1920				12,100	2,153	25,200
1921	125,009 111,440 -===================================	4,048,000 2,187,000	132,185 58,569	1,356,000	3,095	121,050
Cotton planters: 1 row— 1920 1921	35,056 7,889	393,000 66,000	37,917 5,755	55,000	15	400
Combination corn and cotton planters:						
1920	90,732 33,142	1,647,000 625,000	97,908 21,761	406,000	1,436 726	22,800
1920 1921	2,854 1,869	174,000 110,000	3,773 923	63,000	1,246 188	10,000
Total— 1920 1921	93,586 35,011	1,821,000 735,000	101,681 22,684	469,000	2,682 914	32,800
('ombination listers and drills: 1 row— 1920	7,607 10,132	473,000 358,000	11,858 7,819	256,000	6	280
2 row— 1920 1921	1,332 2,276	189,000 152,000	1,312 1,489	104,000	31	2,700
1920	9,772	120,000	7,853	96,000	29 1,562	18,000
Total— 1920	8,939 22,180	62,000 630,000	13,170 17,161	456,000	29 1,599	20,980

Table 557.—Farm equipment manufactured in the United States, 1920-21—Continued.

	Manu	factured.	Sold in U	nited States	Sold fo	r export
Article.	Number.	Value.	Number	Value	Number.	Value
I orato planters		Dollars		Dollars.		Dollárs
Hand-drawn—						
1921 Horse-drawn—	30,477	46,000	15,734	31,000	60	100
1920	8,471 6,425	667,000 588,000	8,367 5,741	539,000	107 162	12, 200
Fotai—						
1920 1921	8,471 36,902	667,000 634,000	8,367 21,475	570,000	107 222	12,30
Grain drills:						
Horse— 1920	100,637	10,973,000	107,182		9,734 2,747	
1921	40,934	3,353,000	21,343	2,040,000	2,747	240,00
Tractor 1920	3,406	431,000 130,000	3,168		163	
1921	1,465	130,000	841	83,000	117	14,70
Total—			110.050		0.007	
1920 1921	104,043 42,399	11,404,000 3,483,000	110,350 22,184	2,123,000	9,897 2,864	254,70
		=====				
Broadcast seeders: Wheel (horse-drawn)—	1					
1920	6,783 5,734	357,000 200,000	6,163 2,186	83,000	636 255	17.00
1921 End gate	!		l	00,000		, , ,
1920	14,961 10,425	246,000 171,000	14,928 6,913	105,000		
Hand (wheelbarrow and	10,120	111,000	1	,		
other)— 1920	69, 239	78,000	68,280		1,080	
1921	69,239 33,383	78,000 67,000	68,280 32,280	60,000	572	2,30
Total—						1
1920 1921	90,983 49,542	681,000 438,000	89,371 41,379	248,000	1,716 827	19,3
	10,012			 _		
Transplanters: Hand and horse drawn—						
1920	4,804 3,894	318,000 151,000	4,426 3,534	128,000	230	9
1921	3,894	151,000	3,004	120,000		
Beet drills:	1			1		
Horse-drawn— 1920	1,357	103,000 91,000	1,386	37,000	8 31	2,5
1921	1,120	91,000	505	37,000	- 51	
Total planting machin-						
erý— 1920	472, 248 310, 377	20, 097, 000 8, 415, 000	498, 853 193, 246	21,612,000 5,442,000	16,822 9,623	1,458,0 465,0
1921	310, 377	8, 415, 000	193, 246	5, 442, 000	9,023	400,0
Cultivator (row crops)						
Cultivator (row crops) Motor, 1 and 2 row— 1920	1.120	911,000	865 1,577		. 20	
1921	1,120 1,586	911,000 94,000	1,577	108,000	1	
Horse-drawn (straddle row)— 1 row, walking— 1920	-				765	
1920	57,379 32,694	1,793,000 678,000	62,329 22,070	434,000	. 765 320	9,6
1041	I	1	i		. 787	
1 row, riding— 1920 1921	121,637 104,832	5, 645, 000 4, 161, 000	152,644 73,407	2,988,000	1,390	80,6
2 row—	1	i	i		i	
1920 1921	74, 827 22, 848	4, 272, 000 1, 560, 000	90, 427 17, 181	1,180,000	2,444 107	9, 1
1 horse, including shovel	,	.,,	1			
plows— 1920	316.312	1,950,000	273, 576 41, 217		- 40,785 17,614	107.0
1921	316, 312 86, 349	1,950,000 499,000	41,217	284,000	1	
Beet cultivators—	4,430	283,000 184,000	5,336 2,668	10# 000	157 21	6, 8
1921	3,848	184,000	2,668	137,000	. 21	. 0,

Table 557.—Farm equipment manufactured in the United States, 1920-21-Continued.

	Manu	factured.	Sold in Ui	nited States.	Sold fo	r export
Article	Number	Value.	Number	Value.	Number	Value
Cultivator (row crops)—Contd. Hand cultivators (wheeled						
hoes)—		Dollars.		Dollars		Dollars.
1920 1921	150,937	603,000	111,044	490,000	3,966	21,00
Other cultivators—		·		1	,	21,1/1
1920 1921	4, 174 43, 561	332, 000 396, 000	4,653 38,424	282,000	905 12,991	31,00
Total— 1920 1921	580, 179 446, 655	15, 186, 000 8, 175, 000	589, 830 307, 588	17, 296, 000 5, 898, 000	45, 863 36, 413	670, 00 264, 00
Kaying machinery:						====
Mowers— 1920	239 165	15.393 000	172,654		68 220	
1921	239, 165 103, 826	15, 393, 000 5, 167, 000	172,654 61,061	3, 116, 000	68, 229 47, 589	1,391,00
Rakes, sulky (dump)— 1920.	84,495	3,107,000	77,622		19,695	
1921	84,495 54,178	1, 151, 000	77,622 31,322	862,000	9,864	269,00
Rakes, side delivery— 1920 1921	15,195 14,813	1,127,000 872,000	16,658 13,724	797,000	414 348	23,60
Rakes, sweep— 1920 1921	22, 96 t 13, 501	819,000 386,000	24,078 6,648	189,000	865 70	3, 20
Tedders— 1920. 1921	5,992 1,703	347, 000 95, 000	4, 803 2, 470	116,000	1,981 63	2,40
Loaders— 1920 1921.	33,337 21,487	3,050,000 1,535,000	32,399 17,012	1,207,000	2,509 211	19,50
Stackers— 1920 1921	10, 129 7, 956	825, 000 546, 000	9,628 2,938	222,000	31 <i>s</i> 23	1,30
Combined sweep takes and	1,,,,,,	0.0,000	_,,,,,	,	-0	1,00
stackers— 1920	279	35,000	270			
1921	310	35,000 28,000	73	7,000		
Total— 1920 1921.	411, 556 217, 774	24, 703, 000 10, 083, 000	338, 112 135, 248	19,667,000 6,516,000	94, 011 58, 168	6,230,00 1,710,00
				0,020,000		2,720,00
Harvesting machinery: Grain binders—						
1920 1921	139,372 72,181	24, 593, 000 9, 310, 000	99, 546 27, 245	3, 570, 000	25, 122 21, 570	2, 978, 00
Grain headers—	J		l	3,070,000		2,010,00
1920 1921	4,725 4,253	1,295,000 815,000	3,071 2,866	544,000	945 1,012	207,00
Combined harvesters and	-,	5, 5.0.5	-,555	023,000	-,	
threshers—	3,627	4, 253, 000	2,717		929	
1921 Rice binders—	5,027	4, 253, 000 4, 680, 000	2,717 2,264	2,411,000	2,593	1,935,00
1920 1921	2,135 1,393	446,000 194,000	3,662 61	9,000	42 5	80
Corn binders (row)— 1920	l	6,690,000	32 550		833	
1921	40,793 5,773	828,000	32,559 8,361	1,067,000	833 30%	36,00
Self-rake reapers—	14.949	1,170,000	1,708		12,377	
Corn pickers and huskers (field)—	14,949 9,705	672,000	696	47,000	12,377 7,024	489,00
1920	2,882 1,483	1,068,000 303,000	2,939 399			
Potato diggers (elevator type)—	1,483	303,000	399	82,000		
1920 1921	11,718 7,683	1,090,000 743,000	10,463 7,422	728,000	657 210	1 21,00
Potato diggers (plow type)— 1920 1921.	6,452 4,040	İ	ĺ		228	
1921	4 040	75,000	6,781 3,034	60,000	218	3,60

Tible 557.—Farm equipment manufactured in the United States, 1920-21—Continued.

	Manu	factured	Sold in U	nited States.	Sold for	export.
Article	Number	Value	Number	Value	Number.	Value.
Harvesting machinery—Contd Pea and bean harvesters— 1920 1921 Beet liltus—	498 1,926	Dollars 31,000 81,000	490 1,518	Dollars 80,000		Dollars.
1920 1921	5, 026 5, 409	286,000 189,000	4,893 5,254	116,000	201 59	2, 800
Total— 1920 1921.	232, 177 118, 876	41,015,000 17,890,000	168,829 59,120	30,626,000 8,714,000	41,334 32,999	7,339,000 5,673,200
Machines for preparing crops for market or use.						
Grain threshers— 1920 1921 Erec threashers—	22, 159 13, 100	19,059,000 11,937,000	20, 753 5, 491	5,972,000	1,961 825	847,000
1920 1921 Pea and bean threshers—	510 264	501,000 233,000	596 4	7,000	6	
1920	216 689	156,000 108,000	211 52	42,000	4	
1920. 1921. Clover hullers—	783	111,000	233	103,000		
1920 1921	690 511	910,000 550,000	767 309	331,000	102 103	118,00
Ensilage cutters— 1920 1921 Corn shellers, power—	27,004 11,301	4,852,000 1,904,000	23, 896 9, 869	1,542,000	1,085 209	39,00
Corn shellers, power— 1920 1921 Corn shellers, hand—	7, 229 3, 907	1,644,000 698,000	6,506 2,851	542,000	150 169	42,00
1920 1921 Corn huskers and shredders—	21,604	229,000	11,731	104,000	6,183	108,00
1920 1921 Hay presses: Horse—	4,953 4,423	2,116,000 1,405,000	5, 101 2, 744	905,000	22 25	9,00
1920 1921	2,225 1,288	781,000 289,000	2,795 515	101,000	483 98	23,00
Engine— 1920 1921 Feed grinders and crushers:	5, 247 1, 121	2,539,000 600,000	4,251 786	442,000	329	1,60
Hand— 1920 1921	44,797 2,562	226,000 8,000	23,535 1,289	3,000	20,346	40
Power— 1920 1921	61,977 11,336	2,244,000 271,000	52,314 10,781	250,000	4,570 200	5,00
Grain cleaner and grader— 1920 1921	19,765 3,819	584,000 265,000	19,193 1,914	126,000	1,162 228	6,00
Total— 1920 1921	196,772 76 708	35,612,000 18,608,000	159,918 48,569	34,749,000 10,470,000	30, 220 8, 243	3,010,00 1,199,00
Farm wagons: i-horse— 1920	32, 934 270	2, 076, 000 19, 000	31, 165 276	18,000	122	
Light, 2-horse— 1920	49, 498 1, 149	5, 413, 000 106, 000	46, 571 590	54,000	. 32	
1921 Medium, 2-horse— 1920 1921	72, 399 1, 374	8, 325, 000 148, 000	68, 439 1, 013	107,000	43	
Standard, 2-horse— 1920. 1921	50, 926 1, 022	1	1		67	

Table 557.—Farm equipment manufactured in the United States, 1920-21—Continued.

_	Manu	factured	Sold in U	n ted States	Sold fo	or export
Artacle	Number	Value.	Number	Value	Number	Value
arm wagons—Continued				Military and Commission of the		
Heavy, 2-horse—	0.000	Dollars.		Dollars.	i	Dollars
1920	9,666 314	1, 384, 000 35, 000	9,317	40.000	213	
1921 tizes not specified—	314	35,000	514	60,000		
1920	11, 800	1, 140, 000	11,800			
1921	11, 800 55, 120	1, 140, 000 4, 692, 000				
Horse-drawn farm trucks—	1	, ,	1			
With wood wheels—	47 000	0.000.000				
1920 1921	47, 238 583	3, 280, 000 24, 000	44, 757 600	24 000	725	
With metal wheels—	969	24,000	000	34,000		
1920	36 856	1 617 000	34,607		471	l
1921	36, 856 1, 073	1, 617, 000 41, 000	976	37,000	7,1	
Light spring vehicles—	2,0.0	11,000	1	0.,000		
1920	5, 532	477,000	3,409		2, 137	
1921						
Carriages and buggies—				Ì		
1920	132, 246 34, 144	12, 254, 000 3, 588, 000	132,014		}	
1921	31, 114	3, 588, 000			}	
Total-						
1920	449 095	42 423 000	430 459	40 929 000	3,810	339,00
1921	449, 095 95, 049	42, 423, 000 8, 770, 000	130, 459 5, 272	40, 929, 000 456, 000	0,010	330,00
fiscellaneous items.				1		
Cane mills—						
1920	11,923 3,814	780, 000 236, 000	7,539 2,744		1,879 444	
1921	3,814	236,000	2,744	146,000	444	27,00
Cream separators—	222, 587	15 501 000	169,057		27, 954	
1921	50, 024	15, 501, 000 3, 767, 000	2, 202	102,000	10	60
Farm elevators—	00,021	0,101,000	2, 20,2	102,000	10	
Portable—						ĺ
1920	7,703	1,776,000 227,000	7,423 527		69	
1921	951	227,000	527	113,000		
Stationary—	0.050	004 000	0.010	1		
1920. 1921.	3,052	934,000	2,910 78	17,000	8	
Feed and litter carriers—	08	15, 000	18	17,000		
1920	15.093	682, 000	14. 274	1	75	
1921	15,093 1,066	682,000 23,000	14, 274 770	16,000		
Fertilizer distributors—	ł	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,		
1920	48, 540 19, 548	453,000	51, 236 14, 071			
1921	19,548	229,000	14,071	159,000	47	70
Gasoline and kerosene en-			1	1		
gines, stationary and port- able, for farm use-	l		1			
1920	268 287	25 603 000	216 144		22,059	
1921	268, 287 107, 120	25, 693, 000 18, 720, 000	216, 144 1, 631	127,000	22,000	
Hay forks, slings, or carriers—	1,	,,	-, -, -,	1,		
1920						
1921	39, 590	155,000	28,074	123,000		
Lime spreaders—	0.150				an.	
1920	9, 153 3, 851	325, 000 161, 000	9,093	100.000	392	14,5
Mangers, stalls, and fittings—	3, 801	101,000	2,440	108,000	392	14,0
1920						
1921	6, 882	45,000	5,440	39,000		
Manure spreaders—	1		'	1		
1920	103, 036	14, 744, 000 4, 948, 000	104, 444 26, 272		1,120	
1921	43, 837	4, 948, 000	26, 272	3,022,000	73	10,0
Milking machines—	20	[1		e	
1920 1921	29, 555 43, 290	2, 962, 000 2, 143, 000	28, 130		921	
Portable corn cribs—	90, 200	2, 140, 000				
1920	4,502	731, 000	4,186			
1921	2,4702	.51,000	2, 100			
Portable grain bins—						
1920	6,137	1,206,000	6,137			
1921						
		t	1	l l		1
Pumps—	F00 00-	F 00		1	Am	
1920	500,690 1,455,014	5,087,000 58,537,000	445, 269 2 751	2 5,300	27,177	

 $^{^{1}}$ 1,000 added to adjust to total.

Table 557.— Farm equipment manufactured in the United States, 1920-21—Continued.

	Manu	ifactured	Sold in U	nited States	Sold fo	r export.
Article	Number	Value.	Number	Value.	Number.	Value
Miscellancous items—Continued. Pump jacks— 1920.	84,948	Dollars 877,000	86,198	Dollars.	2,349	Dollan.
1921 Sawmill machinery—						
1920 1921 Seed-potato cutters—		5,957,000				
1920 1921	1,442 831	14,000 5,000	1,418 595	6,000	2	30
Sīlos— 1920. 1921.	24,052 596	9,492,000 173,000	23,637 596	173,000	24	
Spraying machines, power or traction—				110,000	222	
1920. 1921. Spraying-outfits, hand—	11,000 2,533	2,488,000 315,000	10,715 2,180	268,000	228 75	5,000
1920. 1921. Stalk cutters—	32,005	188,000	14,402	142,000	49	215
1920. 1921. Steel pens, linear feet—	24,064 9,118	1,098,000 332,000	22,455 4,879	193,000	43 104	4,200
Cattle and horses— 1920 1921. Swme—	3,202	7,000	3,702	8,000		
1920	704	1,000	704	1,000		
stump pullers— 1920. 1921.	4,862 224	618,000 17,000	2,888 173	13,000	1,249 51	4,500
Sirup evaporators— 1920 1921 Trackage for carriers, feet—	11,355 5,002	275,000 75,000	9,114 4,550	65,000	233 106	2,255
1920	327,405	49,000	327,775	59,000		
1920. 1921. Water bowls— 1920.	68	2,000	68	2,000		
Windmill towers—	3,518	7,000	2,449	6,000		
1920 1921 Windmills—	19,647	622,000	83	4,000		
1920. 1921 Wood-sawing machines— Circular—	75, 736 38, 570	5,443,000 2,873,000	57,108 417	14,000	17,464	
1920	29,084 3,529	732,000 107,000	29,195 2,562	84,700	36	
Drag— 1920. 1921 Cooperage, furniture, veneer,	11,482 71	1,633,000 16,000	10,427 65	12,000	13	
and other machinery— 1920 1921		2,400,000				
All other items— 1920 1921		60,598,000		109,000		
Total— 1920 1921		93,544,000 162,950,000		82,429,000 5,137,000		7,495,000 69,000

Table 557.—Farm equipment manufactured in the United States, 1920-21—Continued. Summary.

	Manu	iactured.	Sold in U	nited States	Sold fo	export
Article.	Number.	Value	Number.	Value.	Number.	Value
Tractors, gas 1920. 1921. Steam traction engines:	203, 207 76, 046	Dollars. 193, 563, 000 50, 095, 000	162,988 10,403	Dollars 161, 896, 000 14, 675, 000	29, 143 915	Dollars 30, 850, 000 1, 219, 000
1920 1921 Plows and listers	1,766 957	4,661,000 2,293,000	1,401 470	3,903,000 1,051,000	121 8	370, 000 12, 000
1920. 1921. Tillage implements:	1,361,578 562,048	43, 222, 000 12, 974, 000	1,215,979 377,654	37, 699, 000 8, 912, 000	221, 077 98, 169	7, 200, 000 2, 623, 000
1920 1921 Planting machinery:		22,919,000 10,314,000		20, 636, 000 7, 179, 000		1,665,000 936,000
1920. 1921 Cultivating machinery:	472,248 310,377	20,097,000 8,415,000	498, 853 193, 246	21,612,000 5,442,000	16, 822 9, 623	1, 458, 000 465, 000
1920 1921 Haying machinery:	580,179 446,655	15, 186, 000 8, 175, 000	589, 830 307, 588	17, 296, 000 5, 898, 000	45, 863 36, 413	670, 000 264, 000
1920 1921 Harvesting machinery:	411,556 217,774	24,703,000 10,083,000	338, 112 135, 248	19,667,000 6,516,000	94,011 58,168	6, 230, 000 1, 710, 000
1920	232, 177 118, 876	41,015,000 17,890,000	168, 829 59, 120	30, 626, 000 8, 714, 000	41,334 32,999	7, 339, 000 5, 673, 200
market or use: 1920	196, 772 76, 708	35,612,000 18,608,000	159, 918 48, 569	34, 749, 000 10, 470, 000	30, 220 8, 243	3,010,000 1,199,000
Horse-drawn vehicles: 1920 1921	449, 095 95, 049	42, 423, 000 8, 770, 000	430, 459 5, 272	40, 929, 000 456, 000	3,810	339,000
Miscellaneous items: 1920		93, 544, 000 162, 950, 000		82, 429, 000 5, 137, 000		7, 495, 000 69, 000
Grand total— 1920 1921		536, 945, 000 310, 567, 000		471, 442, 000 74, 450, 000		66, 626, 000 14, 170, 000

VEGETABLE OILS.

Table 558 .- Imports of regetable oils into the United States, for calendar years 1912-1931.1 [In thousands of pounds, re, 000 omitted]

ïer.	Cas- tor.2	Chi- nese nut	Cocoa but- ter or but- terine	Coco- nut.	Cot- ton- seed.	Lin- seed	Olive ¢	Palm.	Palm ker- nel.	Pea- nut.	Rape- Soy seed bean
1912	56 1, 661 3, 071 4, 406	30, 137 57, 649 11, 091	1, 244 558 1		16, 017 16, 598	1,350 711	56,466 61,769	49, 092 29, 270	21,089 4,324	7,626 7,365 15,674 27,405	11, 172 12, 555 20, 181 145, 409
1918	1,372	42, 718 53, 853 67, 962 27, 219	$\frac{1}{72}$	356, 089 281, 063 216, 327 189, 717	27, 806 9, 158	16, 143	69, 799 31, 087	41, 818	1,929 1,694	154.052	8,375,195,809 12,907,112,214

¹ Bureau of Foreign and Domestic Commerce.

Nore -Conversions on basis of 7½ pounds to the gallon for all oils except easter; easter oil, 8 pounds to the gallon

Table 559 — Exports of vegetable oils from the United States for calendar years 1912-1921.

Year.	Corn.	Cotton- seed.	Lin- seed.	Cocoa butter or but- terine.2	Coco- nut 2	Peanut ²	Soy bean. ²
1912 1914 1916 1917	1,000 pounds 22,870 16,199 9,119 4,709	1,000 pounds. 355,930 216,309 188,214 124,704	1,000 pounds 3,151 1,993 6,180 11,465	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
1919 1920 1921 ⁴	6,415 12,059 4,400	193, 133 184, 754 252, 549	11,266 5,366 3,512	³ 7,320 5,377 2,855	3 118,612 25,695 7,498	3 4,342 1,425 1,708	3 27,715 43,512 1,944

Bureau of Foreign and Domestic Commerce.
 Not separately stated prior to July 1, 1919.
 July to December
 Preliminary

Note -Conversions on basis of 71 pounds to the gallon.

Imports for consumption.
Includes oil for mechanical purposes
Less than 500 pounds.

⁵ Preliminary.

VEGETABLE OILS-Continued.

Table 560,—International trade in olive oil (including nonedible), calendar years 1913-1921.

[Conversions on basis of 7.5 pounds to the gallon.]

<i>A</i> . ()	0000	of one Dopus Charles of 12th tenter of 1000.
21	Exports.	Pounds. 155, 678 11, 115, 814 23, 342, 884 30, 907, 884 30, 907, 884 105, 934, 074 105, 934, 074 163, 520 163, 520
1921	Imports.	Pounds. 1, 373, 274 48, 137, 221 25, 185, 932 136, 786 8, 384, 686 9, 883, 780 1, 223, 683 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 1, 223, 883 2, 940, 674 133, 733 103, 685
1920	Exports.	Pownds. 288, 395 7, 937 4, 812, 421 3, 915, 819 23, 374, 272 3, 615, 819 171, 361 119, 754, 119 3, 620 667, 520 667, 520 2, 982
19	Imports.	Pounds. 1,676,453 202,382 81,400 81,400 812,896 82,2630,970 83,82,287,155 83,7155 84,220 1,458,420 1,458,420 1,232,088 1,248,420 1,248,420 1,248,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,458,420 1,272,067 1,273,632 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,305 1,458,3
1919	Exports.	Pounds. 2, 448, 080 4, 958, 386 11, 183, 946 18, 113, 436 1, 113, 436 1, 113, 436 1, 113, 436 1, 113, 436 1, 113, 436 247, 514, 573 154, 560 2, 620 2, 620
19	Imports.	Pounds. 5, 810, 337 111, 815, 828 111, 815, 888 15, 175, 892 15, 175, 892 17, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 88, 215 18, 215 18, 215 18, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19, 215 19,
1918	Exports.	Pounds. 1, 155, 431 2, 551, 347 85, 538, 244 2, 240 2, 240 2, 240 1, 872
19	Imports.	Pounds. 3, 487, 457 1, 625, 672 1, 625, 672 3, 473 2, 486, 167 2, 488, 608 10, 317, 440 2, 288, 316 1, 288, 386 1, 419, 555 1, 419, 555 1, 419, 556 2, 400, 441 27, 1nclusive.
1913	Exports.	28, 283 284 284 284 3, 285 3, 454 284 284 284 284 284 284 284 284 284 28
19	Imports.	Pounds. 4,448,383 1,132,38,659 1,132,38,659 1,132,38,659 1,132,38,659 1,132,38,659 1,132,38,659 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669 1,132,38,669
	Countries.	lelguum luland l

Table 561 —International trade in peanut oil, calendar years 1913-1921

[Conversions on basis of 7 5 pounds to the gallon.]

	1913	3	1918	80	1919	6	1920	0	1921	21
Countries	Imports	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports	Imports	Exports.
Belgium Dommark France Italy Notherlands Noway Span China China Philippine Islands Egypt.	Pounds. 3, 323, 585 4, 477, 811 6, 631, 003 6, 534, 915 8, 123, 601 11, 271, 008 1, 381, 117	Pounds. 1, 946, 300 53, 427, 379 21, 415, 747 18, 435 34, 209, 783	2, 301, 382 2, 040, 889 1, 186, 245 68, 466, 450 1, 007, 094	Pounds 3, 755, 536 48, 395 (1) 79 (1) 78, 750, 267 (1)	Pounds 2, 566, 727 1, 088, 613 7, 788, 026 5, 422, 928 2, 217, 928 154, 622, 938 154, 622, 938 154, 632, 878 1, 176, 901 560, 488	Pounds. 315, 778 4315, 778 4, 006, 199 5, 641, 743 1, 638, 102 6, 4341, 803 163, 223, 667 (1)	Pounds. 4, 026, 424 948, 419 18, 277, 457 12, 285, 887 2, 869, 768 3, 678, 155 1, 889, 410 1, 889, 410 1, 381, 768 1, 381, 768 1, 381, 768 16, 878	Pounds 1, 703, 274 29, 321, 400 53, 351 8, 702, 637 117, 647 323, 366 110, 169, 600 110, 169, 600	Pounds 4, 433, 561 1, 1345, 688 11, 155, 088 14, 279, 554 6, 068, 574 6, 068, 574 77, 622	Pontads 4, 528, 224 89, 786, 439 60, 636 18, 114, 614 1, 788, 335 61, 554, 800 (1)

¹ Not separately stated.

VEGETABLE OILS-Continued.

Table 562.—International trade in linseed oil, calendar years 1913-1921.

[Conversions made on the basis of 7.5 pounds to the gallon.]

	19.	1913	19	8161	1919	19	1920	20	1761	11
Countries.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports	Exports.
Selgtum Selgtum France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France France 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385 4, 512, 881 5, 280, 252 1, 059, 727	7,794,608 294,604 294,604 29,204,804 29,206,537 29,107,200 29,107,200 29,206,537 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 30,200 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			- 1- (1-7-(1-		200 (200 6)		ממד לביתה יש	1 1 7 0 0	4,040,404	:

1 Unavailable. * Including inports for the New Zealand Government, as follows: 1918, 275,802 pounds; 1919, 135,394 pounds; 1920, 177,787 pounds. * Calendar year.

METEOROLOGICAL STATISTICS.

Table 563 — Temperature and precipitation statistics as recorded by the Weather Bureau. ${\tt JANUARY,\,1922}$

_		T	emper	ature (°F)		Precipitation (inches)					
State.	Jan., 1922		Jan. 1 to Jan. 31, 1922		Extro Jan ,		·	1922.	Jar	. 1 to 1. 31, 122	Extre mon tota	hly
	Normal	Average daily departme.	Normal	A verage daıly departure	Highest.	Lowest.	Normal	Total depar-	Normal	Total depar- ture.	Greatest	Least
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.	15. 7 17. 6 16 1 25 5 28. 7	-2.7 -1.8	15. 7 17. 6 16 1 25 5 28. 7	$ \begin{array}{r} -2.4 \\ -3.0 \\ -2.7 \\ -1.8 \\ -1.3 \end{array} $	47 45 58 65 50	-38 -36 -36 -20 -2	2.66 3.72	-1 22 -0.91 -0 78 -1 74 -1.64	3 38 2.87 2 66 3.72 4 40	-1.22 -0.91 -0.78 -1.74 -1.64	3. 40 2 32 3. 39 3 68 3 88	1. 47 1. 61 0. 79 1. 01 1. 36
Connecticut. New York New Josey Pennsylvania Delaware.	23. 3 22. 9 29. 9 28. 1 34 1	$ \begin{array}{r r} -3.3 \\ -2.3 \\ -3.1 \end{array} $	23. 3 22 9 29 9 28 1 34. 1	-2.3 -3.1	49 55 57 62 60	-9 -37 -13 -19 6	3. 51 2 96 3. 61 3 19 3. 28	-1 63 -0. 75 -0 99 -0. 93 +0. 73	3 51 2, 96 3, 61 3, 19 3 28	$ \begin{array}{r} -1 & 63 \\ -0. & 75 \\ -0. & 99 \\ -0. & 93 \\ +0. & 73 \end{array} $	4, 46	1. 59 0 83 1 08 1. 15 3. 21
Maryland Virginia West Virginia North Carolina South Carolina	32 3 36. 3 32. 1 41. 1 45. 5	$ \begin{array}{r r} -2.4 \\ -1.9 \\ -1.3 \end{array} $	32 3 36.3 32.1 41 1 45.5	-2.4 -1.9 -1.3	63 72 68 82 81	15 5 15 1 14	3 25 3, 37 3 91 3 71 3, 46	+0.71 $+0.63$ -116 $+0.87$ $+007$	3 25 3.37 3 91 3 71 3.46	+0.71 +0.63 -1.16 +0.87 +0.07	4. 81 9. 22	1. 39 1. 83 1 01 2. 13 1. 57
Georgia Florida OhioIndiana Illinois	46, 8 59 3 28, 6 28, 6 26, 5	$ \begin{array}{r r} -0.3 \\ -2 & 2 \\ -1 & 9 \end{array} $	46. 8 59. 3 28. 6 28. 6 26. 5	-0.3 -2.2 -1.9	82 92 69 67 69	$\begin{array}{c} 12 \\ 21 \\ -20 \\ -25 \\ -11 \end{array}$	3.08	+0.77 -0 89 -1 49 -1.54 -1.16	3. 94 3. 08 3. 11 3. 19 2. 44	+0.77 -0.89 -1.49 -1.54 -1.16	5. 92 3. 41	2. 25 0. 25 0. 70 0. 76 0. 60
Micingan Wisconsin Minnesota Iowa Missouri	20. 1 13. 8 7. 5 17 9 30. 1	+19	20. 1 13. 8 7 5 17. 9 30 1	$ \begin{array}{r} -1.1 \\ -0.6 \\ +1.9 \\ +1.9 \\ -0.6 \end{array} $	54 51 49 57 66	-41 -54 -51 -29 -6	1 28	-0.73 -0.48 -0.12 -0.16 -1.05	2, 04 1, 28 0, 77 1, 05 2, 26	-0.73 -0.48 -0.12 -0.16 -1.05	1.87 1.88 2.30	0. 37 0. 10 0. 05 0. 32 0. 32
North Dakota South Dakota Nebraska Kansas. Kentucky	4 9 14 2 21. 9 29 7 35 2	-1.1 -1.2	4 9 14 2 21. 9 29. 7 35. 2	+2.1 -0.4 -1.1 -1.2 -0.6	55 60 68 72 67	$-46 \\ -30 \\ -25 \\ -7 \\ 1$	0. 54 0. 48 0. 57 0. 71 4. 39	$ \begin{array}{r} -0.05 \\ +0.47 \\ +0.16 \\ -0.30 \\ -2.14 \end{array} $	0. 54 0. 48 0 57 0 71 4. 39	-0.05 +0.47 +0.16 -0.30 -2.14	1. 60 2. 23 2. 09 1. 60 5. 48	0. 10 0. 16 0. 05 0. 00 0. 71
Tennessee Alabama. Mississippi Louisiana Texas	39 1 46, 3 46, 9 51 1 48 4	$ \begin{array}{r} -0.2 \\ +1.1 \\ -0.2 \\ -0.1 \\ -2.5 \end{array} $	39. 1 46. 3 46. 9 51. 1 48 4	-0.1	69 79 81 84 92	-3 15 20 21 -5	4.78 5.03	-0.70 $+2.30$ $+1.49$ $+1.70$ $+0.72$	5 06 4. 78 5. 03 4. 26 1. 75	$ \begin{array}{r} -0.70 \\ +2.30 \\ +1.49 \\ +1.70 \\ +0.72 \end{array} $	10. 41 11. 03 10. 80	2. 26 3. 10 2. 15 3. 04 T
Oklahoma Arkansas Montana Wyoming Colorado	38. 7 40. 9 18. 6 19. 4 23. 3	$-3.5 \\ -7.1$	38 7 40. 9 18. 6 19. 4 23. 3	$-18 \\ -3.5 \\ -7.1$	77 74 60 59 73	-7 10 -42 -51 -45	1. 24 4. 23 1. 05 0. 86 0. 86	+0. 26 -1 60 -0 35 -0. 07 -0. 01	1. 24 4. 23 1. 05 0. 86 0. 86	+0 26 -1.60 -0.35 -0.07 -0.01	2. 58 7. 98 4. 32 2. 04 8. 07	0. 06 0. 77 0. 06 0. 00 0. 00
New Mexico Arizona Utah Nevada	34 2 42.4 25.0 31.4		34. 2 42 4 25. 0 31. 4	-29 -6.9	73 80 64 66	-19 -23 -42 -39	0. 67 1. 46 1. 44 1. 11	-0.16 +0.45 -0.15 +0.02	0. 67 1. 46 1. 44 1. 11	-0.16 $+0.45$ -0.15 $+0.02$	7.60 4.91	0.00 T. 0.05 0.13
Idaho	22. 9 30. 8 33. 4 45. 8	-6.0	22. 9 30. 8 33. 4 45 8	-5.9 -6.0	51 60 67 82	-50 -28 -39 -28	4. 54 4. 62	-0.90 -2.44 -1 85 -1.94	2. 38 4. 54 4 62 5. 41	-0.90 -2.44 -1.85 -1.94	12. 65 10. 59	0. 38 0. 07 0. 16 0. 22

 ${\it Table 563.-Temperature \ and \ precipitation \ statistics \ as \ recorded \ by \ the \ Weather \ Bureau-Continued }$

FEBRUARY, 1922

		Ten	perat	are (°	F)			Prec	ıpıtatı	on (inc	hes)	
State.	Feb ,	1922.	Jan. Feb.	28,	Extre Feb.,	mes, 1922.	Feb.,	1922.	Jan Feb 19	1 to . 28, 22	Extre mon tot	thly
ousie.	Normal	Average daıly departure	Normal	Average daily departure	Highest.	Lowest.	Normal.	Total depar- ture	Normal	Total departure.	Greatest.	Least
Maine New Hampshire Vermont Massachusetts Rhode Island	17 4 18 2 18.0 25.9 29.3	+1 2 +1.7 +2.5	16 6 17 9 17 0 25. 7 29. 0	-0.9 -0.5 $+0.4$	57 54 58 56 57	-40 -40 -40 -25 -7	2.34	-0 19 -0 15 +0.30 -0.40	5 00 7.22	-1.06 -0.48	3. 49 4. 91	1 86 1. 8 1 5 1 5 2. 4
Connecticut New York New Jersey Pennsylvania Delaware	26. 4 21 6 29. 6 27. 5 33. 5		24. 8 22. 2 29. 8 27. 8 33. 8	+0.7 +0.8 +1.2	60 73 73 74 73	-19 -39 -18 -19	3. 78 2 83 3. 57 2. 89 3. 26	-1. 15 -0. 27 -0 63 -0. 90 +0. 12	7. 29 5 79 7. 18 6. 08 6. 54	-2.78 -1.02 -1.62 -1.83 +0.85	5 30	1 96 0. 41 1. 86 0 67 2 55
Maryland Virginia. West Virginia. North Carolina. South Carolina.	32.7 36.3 31.8 41.9 47 1	$+4.6 \\ +6.4$	36 3	+1.2 $+1.1$ $+2.2$ $+2.2$ $+2.1$	79 78 77 83 84	-11 -13 -14 3 14	3.10	-0 13 +0.89 -0 21 +1.89 +2.19	6. 52 6 53 7 01 7. 60 7. 89	+0.58 $+1.52$ -1.37 $+2.76$ $+2.26$	6. 35 6. 70 5. 57 9. 85 10. 54	2 04 1 86 0 94 2. 93 3. 23
Georgia Florida Ohio Indiana Illinois	47.9 60 0 28.0 29.2 27.7	+5.3	47. 4 59. 6 28. 3 28. 9 27. 1	+2.5 +1.8 +1.4	86 90 76 76 75	14 24 -3 0 -4	3. 35 2. 60 2. 65	+1.38 -0.51 -0.92 -1.02 67	6 43 5,71	$\begin{array}{r} +2.15 \\ -1.40 \\ -2.41 \\ -2.56 \\ -1.83 \end{array}$	8 78 4, 00	3 8 0. 2 0 6 0. 4 0. 4
Michigan. Wisconsin	18 3 15.3 10.0 20.5 31.3	$-2.8 \\ +3.2$	19 2 14.6 8.8 19.2 30.7	+2.6	65 52 46 70 80	-35 -42 -45 -20 -5	1.77 1.16 0.71 1.15 2.23	+0.96 +1.95 +1.43 +0.44 -0 44	3. 81 2 44 1 48 2. 20 4. 49	+0 23 +1.47 +1.31 +0.28 -1.49	5 27	0 6 1.0 0.3 0 4 0.8
North Dakota South Dakota Nebraska Kansas Kentucky	7 9 16, 4 24, 8 30, 9 35, 6	+2.9	6, 4 15 3 23 4 30, 3 35, 4	-3.6 -1.3	45 62 74 82 76	-39 -37 -16 -3 4	0. 29 0. 73	+0.72 +0.69 -0.35 -0.14 -0.02	1. 03 0. 77 1. 30 1. 98 7. 99	+0.67 +1.16 -0.19 -0.44 -2.16	3 16 3.65 1.65 3.40 6 59	0.0
Tennessee. Alabama Mississippi Louisiana Texas	40, 2 47, 6 48, 4 52 6 50, 3	+6.7 +5.3 +6.3	39. 6 47. 0 47. 6 51. 8 49. 4	$+3.9 \\ +2.6 \\ +3.1$	80 83 86 88 100	5 15 19 19 —2	5, 35	+0. 21 +0. 77 +1. 56 +0. 82 -0. 03	9, 19 10, 13 9, 95 8, 73 3, 55	-0.49 +3.07 +3.05 +2.52 +0.69	6. 20 9. 39 10. 18 12. 89 6. 35	2. 49 3. 8 3. 2 1. 9 0. 0
Oklahoma Arkansas Montana Wyoming Colorado	39. 4 42. 2 21. 3 21. 4 26. 5	+5.6 -10 0 -5 6	39. 0 41. 6 20. 0 20. 4 24. 9	+1.9 -6.8 -6.4	69	-1 10 -42 -42 -33	3, 28 0, 79 0 81	-0.11 $+1.61$ -0.03 $+0.04$ -0.06	1.84	+0 15 +0.01 -0.38 -0.03 -0.07	3, 57	0 3 1.7 0.0 T.
New MexicoArizona. UtahNevada	37. 4 46. 0 29. 5 35. 0	-1.6 -2.6	35. 8 44. 2 27. 2 33. 2	-2.2 -4.8	88 70	-28 -28 -22 -30	0.69 1.29 1.41 0.98	-0. 25 -0. 61 +0. 21 +0. 65		-0.41 -0.16 +0.06 +0.67		0.0 0.0 T 0.2
Idaho Washington Oregon California	27. 1 34. 4 36 9 48. 5	-33	25. 0 32. 6 35. 2 47. 2	-5.4 -4.6	65	-34 -20 -25 -19	1. 89 3. 43 3. 74 4. 41	-1.26	4. 27 7. 97 8. 36	1	4 27 9.32 10.89	0. 3 0. 1 0. 3 0. 0

 $\begin{array}{c} \textbf{Table 563.--} \textit{Temperature and precipitation statistics as recorded by the Weather Bureau--} \\ \textbf{Continued.} \end{array}$

MARCH, 1922.

		Ten	aperati	ıre (° :	F.).			Preci	pitatio	n (incl	ies).		
State.	Mar.,	1922.	Jan. Mar. 3	1 to I, 1922	Extre Mar.,		Mar,	1922.	Jan. Mar. 3	1 to 1, 1922.	Extre mont tota	hly	
state.	Normal.	Average daily departure.	Normal.	Average daily departure	Highest.	Lowest.	Normal.	Total depar- ture	Normal	Total departure.	Greatest.	Least.	
Maine New Hampshire Vermont Massachusetts Rhode Island	28. 2 28. 2 26. 8 33. 6 35. 3	+3.1 +3.4 +3.0	20. 4 21. 3 20. 3 28. 3 31. 1	+0.4	70 72 71 79 75	-27 -13 -15 -2 11	3.61 3.31 3.00 3 81 4.82	-0.07 $+1.54$ $+0.86$ $+0.85$ $+0.28$	8.00	$ \begin{array}{r} -1.48 \\ +0.48 \\ +0.38 \\ -1.29 \\ -2.41 \end{array} $	5. 10 5. 89 6. 10 6. 58 6. 32	1, 25 2, 95 2, 05 3, 15 4, 67	
Connecticut New York New Jersey Pennsylvania Delaware	33.8 31 5 38.5 37.2 43.1	+3.1 $+2.6$ $+2.8$	27.8 25.3 32.7 30.9 36.9	$+1.5 \\ +1.4 \\ +1.7$	76 78 82 81 76	$-rac{3}{2} \\ -rac{5}{19}$	3.88 3.55	+0 90 +0.72 +0 64 +0.82 +0.50	11.69 8.89 11.06 9.63 10 52	$ \begin{array}{r} -1.88 \\ -0.30 \\ -0.98 \\ -1.01 \\ +1.35 \end{array} $	7.05 6.19 7.10 6.65 5.20	2.96 0.48 3.42 2.30 4.01	
Maryland Virginia West Virginia North Carolina South Carolina		$+2.4 \\ +2.2$	39.3 35.5 44.3	$^{+1.5}_{+2.3}$ $^{+2.2}$	80 86 85 87 89	11 16 0 18 24	3 59 3.79 3.83 4.28 3.94	+1.11 $+1.66$ $+1.50$ $+2.63$ $+3.10$	10.11 10.32 10.84 11.88 11.83	+1.69 +3.18 +0.13 +5.39 +5.36	9, 22 7, 50 8 19 13, 92 10, 10	4.47	
Georgia Florida Ohio Indiana Illinois		+0.7 +1.7 +3.2 +3.2 +2.7	50.5 61.6 31.9 32.7 31.5	$^{+2.2}_{+2.3}$ $^{+2.0}$	88 94 83 77 78	20 28 4 10 7	4.39 2.79 3.48 3.73	+3.88 -0.50 +1.67 +3.34 +3.30	13.30 9.22 9.10 9.57	+6.03 -1.90 74 +.78 +1.47	1 70 TA	0 0 2.6 3.2	
Michigan Wisconsin. Minnesota. Iowa. Missouri.		+2.9 +1.8 +2.7 +5.1	22.5 20.4 14.4	+0.6 +0.6 +8.4	72 75 66 74 80	-28 -27 -31 -5	1.98 1.75 1.18 1.77 3.08	+0.71 +0.15 +0.04 +0.20 +3.38	5.79 4.19 2.66 3.97 7.57	+0.94 $+1.62$ $+1.35$ $+0.48$ $+1.89$	6.47 3.82 2.61 3.73 13.29	0.3	
North Dakota		$\begin{array}{r r} +2.1 \\ +3.0 \\ -0.1 \end{array}$	27. 5 34. 7	$\begin{vmatrix} -1.7 \\ +0.1 \\ +0.5 \end{vmatrix}$	84 83	-30 -25 -13 -14	0.88 0 95 1.10 1.35 4.66	$ \begin{array}{r} -0.11 \\ -0.26 \\ +0.02 \\ +2.59 \\ +3.45 \end{array} $		+0.56 +0.90 -0.17 +2,15 +1.29		Trace	
Tennessee. Alabama Mississippi Lonisiana Texas	40 7	-0.9 -0.8	50.0 50.9	+2.3 +2.6 +1.4 +1.8 +0.2	85 87 91	23 21 18	5.38 5.46 5.45 4.17 1.98	+3.89 +4.65 +4.46 +5.53 +1.71	14.57 15.59 15 40 12.90 5.58	+3.40 +7.72 +7.51 +8.05 +2.40	13.04 13.98 15.01 15.52 17.00	5.94 6.20 5.69	
Oklahoma Arkansas Montana Wyoming Colorado	51.8	-0.9 -1.3 -1.5	43.3 45.2 23.4 23.8 28.1	-4.9 -4.7	70	-18 7 -33 -43 -32	2.29 4.70 0.98	$\begin{array}{c} +1.96 \\ +3.87 \\ -0.23 \\ -0.66 \\ +0.10 \end{array}$	4.9	$\begin{array}{c} +2.11 \\ +3.88 \\ -0.61 \\ -0.69 \\ +0.03 \end{array}$	10.18 14.59 3.29 1.70 6.71	3.2 0.0	
New Mexico Arizona Utah Nevada		-2.8 -4.5 -4.6	38.6 47.3	-3.0 -4.5	90 79	-7 -22	1.50 0.98	-0.19 +0.29 -0.20 -0.12	4.34 3.04	-0.60 +0.07 -0.14 +0.55	6.73 3.26	0.0 0.0 Trace	
Idaho Washington Oregon California		-4.7 -3.6 -3.4 -3.3	28.3 35.6 37.6 48.7	-4.8 -4.2	70 73	-30 -30	1.62 2.99 3.14 4.74	+0.20 +0.40 +1.00 +1.00	5.86 10.96 11.50 14.56	-0.84 -3.25 -1.15 -0.24	5. 49 15. 89 16. 53 15. 50	0.1 0.2 0.0 0.0	

 ${\tt Table \, 563.--} \textit{Temperature and precipitation statistics as recorded by the Weather Bureau-Continued}.$

APRIL, 1922.

		Ten	perat	are (° :	F).			Prece	pitati	on (mc	hes).	
State.	Apr.,	1922.	Jan. Apr.	1 to . 30, 22.	Extre Apr.,	mes, 1922.	Apr.,	1922	Apr 19	1 to 2.30,	Extre mon tota	thly
Buaro.	Normal.	Average dally departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total departure.	Greatest	Least
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island	40. 9 42. 0 41. 3 45. 1 45. 1	+1.4 $+0.5$ $+0.5$ $+1.0$ $+1.2$	25. 5 26. 5 25. 6 33. 4 34. 6	$+0.7 \\ +1.2$	80 84 80 85 82	18 13 10 18 27	2.68 3.32 3.97	+0. 12 +0. 29 +1. 16 -1. 01 -1. 54	36.85 14.35 17.65	1	3.31	1.76 2.11 2.81 1.13 1.45
Connecticut New York New Jersey Pennsylvania Delaware	45. 8 44. 3 49. 5 48. 7 53. 2	$+1.0 \\ +1.5 \\ +1.4$	32. 3 30. 1 36. 9 35. 4 41. 0	+1.6 $+1.4$ $+1.6$ $+1.1$	85 89 89 91 88	16 3 18 11 28	3.85 2.80 3.63 3.67 3.71	-1.17 $+0.32$ -1.08 -0.50 -1.39	15.54 11.69 14.69 13.30 14.23	+3.05 +0.02 -2.06 -1.51 -0.04	4.09 7.02 4.12 6.10 2.64	1. 64 0. 44 1. 57 1. 28 1. 98
Maryland Virginia. West Virginia. North Carolina. South Carolina	52. 5 54. 5 51. 5 57. 5 62. 4	+2.5 +2.9 +2.9	40. 0 43. 1 39. 5 47. 6 52. 5	+1.8 $+2.4$ $+2.4$	93 93 91 96 95	17 19 15 23 33	3. 30 3. 41 3. 52 3. 57 2. 97	$ \begin{array}{r} -1.48 \\ -1.19 \\ -0.37 \\ +0.13 \\ +2.14 \end{array} $	13. 41 13. 73 14. 36 15. 45 14. 80	+0.23 +1.99 -0.24 +5.52 +7.50	7.41	0.88 0.82 0.50 1.54 0.82
Georgia. Florida. Ohio. Indiana. Illinois.	63. 4 69. 8 50. 0 51. 7 51. 8	+3.4 +2.6 +2.6	53. 7 63. 7 38. 4 37 5 36. 6	+2.5 +2.4 +2.1	96 98 86 88 85	28 38 20 23 24		0.00 -1.71 $+1.32$ $+2.61$ $+1.64$		+6.03 -3.61 +0.58 +3.39 +3.11	7.62 4.41 7.96 11.58 9.93	0.30 0.00 1.73 3.13 1.15
Michigan Wisconsin Minnesota Iowa Missouri	42.9	$+0.1 \\ +0.1 \\ +1.2$	27. 5 26. 1 21. 5 30. 2 40. 2	$+0.5 \\ +2.8$	84 76 83 87 91	7 7 7 21 24	2. 30 2. 46 2. 05 2. 86 3. 79	+1.07 $+1.05$ -0.16 $+0.20$ $+2.42$	8. 09 6. 65 4. 71 6. 83 11. 36	$^{+2.01}_{+2.67}_{+1.19}_{+0.68}_{+4.31}$	6.30 5.62 4.19 6.70 14.34	1. 50 1. 17 T. 1. 04 1. 72
North Dakota. South Dakota. Nebraska. Kansas. Kentucky.	41. 7 45. 2 48. 8 54. 1 55. 9	+0.8 +0.2 +0.8	32.8	$\begin{array}{r r} -1.0 \\ +0.2 \\ +0.6 \end{array}$	81 87 87	-2 9 15 15 25	2.18 2.48	$ \begin{array}{r} -0.46 \\ -0.69 \\ +0.22 \\ +2.62 \\ +0.30 \end{array} $	3. 24 3. 90 4. 88 5. 78 16. 59	+0.10 +0.21 +0.05 +4.77 +1.59	3. 15 4. 34 6. 26 12. 41 7. 13	T. T. 0.34 0.92 2.68
Tennessee. Alabama Mississippi Louislana Texas	58. 2 63. 2 64. 0 67. 0 66. 1	+3.7 +3.5	57.8	+2.2	92 92 91 91 107	23 32 36 37 23	4.60 4.38 5.46 4.83 3.22	+0.84 -0.24 -0.23 -0.49 +3.04	19. 17 19. 97 20. 86 17. 73 8. 75	+4.24 +7.48 +7.28 +7.56 +5.44	8. 61 8. 14 10. 60 9. 80 18. 11	3. 14 0. 61 1. 60 1. 59 0. 00
Oklahoma Arkansas Montana Wyoming Colorado	60. 0 61. 2 44. 3 40. 0 43. 0	+2.2 -3.9 -3.6	49. 2 28. 6 27. 9	+1.3 -4.7 -4.4	90 83 76	15 26 10 19 9		+3.52 +0.72 +0.78 +0.51 +0.30		+5.63 +4.60 +0.17 -0.18 +0.33		1. 15 2. 77 0. 51 0. 16 T.
New Mexico	50. 8 58. 8 47. 3 49. 3	-4.0 -5.8	35.1	-3.2 -5.0	89 99 86 92	4 2 0 6		+0.05 +0.02 +0.53 -0.01		-0.55 +0.09 +0.39 +0.54		0.00 0.00 0.12 0.00
Idaho Washington. Oregon California	43. 9 48. 3 47. 7 57. 0	-2.9 -3.2	32. 2 38. 8 40. 1 50. 8	-5. 2 -4. 3 -4. 0 -3. 6	83	-14 9 -3 -3	1. 42 2. 12 2. 47	+0.28 +0.09 -0.11 -0.97	7.31 13.08 13.97	-0.56 -3.16 -1.26 -1.21		0. 28 0. 00 0. 18 0. 00

 $\begin{tabular}{ll} \textbf{Table 563.--Temperature and precipitation statistics as recorded by the Weather Bureau-Continued.} \end{tabular}$

MAY, 1922.

		Ter	nperat	ure (°	F)			Prec	mitati	on (mche	*c)	
State.	May,	1922.		. 1 to y 31, 22.	Extre May,	emes, 1922.	Мау,	, 1922.	Jan Ma	on (mean 1, 1 to 1y 31, 1922.	Extr	emes, ithly tal.
Busie.	Normal.	Average daily departure.	Normal.	Average daily departure.	Hıghest.	Lowest.	Normal.	Total departure.	Normal.	Total depar- ture.	Greatest.	Least.
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.	52.6 54.7 54.2 56.3 55.4	+1.6 $+0.9$ $+1.1$ $+3.0$ $+2.8$	31. 0 32. 1 31. 3 37. 3 38. 8	+0.6 +0.5 +0.8 +1.5 +1.5	87 87 92 88 86	20 21 19 27 31	3 27 3.43 3.65	+0. 43 +1. 08 -0 24 +1. 28 +0. 91	13. 95 17. 78 21. 30	$ \begin{array}{r} -0.93 \\ +1.85 \\ +1.30 \\ -1.02 \\ -3.04 \end{array} $	6.27	1.98 2.00 2.88
Connecticut. New York New Jersey Pennsylvania Delaware.	56 8 56 1 60.4 59.8 63.6	+3.6 +3.1 +2.6 +2.7 +1.4	37. 2 35. 3 41 6 40. 3 45. 5	$+2.0 \\ +1.7 \\ +1.7 \\ +1.9 \\ +1.2$	92 93 90 96 88	21 19 23 20 32	3.77 3.68 3.80 3.75 3.73	+1.22 -0.36 $+0.04$ -0.54 -1.64	19.31 15.37 18.49 17.05 17.96	$ \begin{array}{r} -1 & 83 \\ -0.34 \\ -2 & 02 \\ -2 & 05 \\ -1.68 \end{array} $	6.10	0.89
Maryland Virginia West Virginia North Carolina South Carolina	62. 8 64. 3 61. 9 66. 8 71. 2	+1.9 $+1.0$ $+1.8$ $+0.4$ -0.2	44. 5 47. 3 43 9 51. 4 56. 2	$+1.5 \\ +1.6 \\ +2.3 \\ +2.0 \\ +1.3$	93 92 94 94 98	25 32 26 29 38	3. 50 3. 79 3. 89 4. 03 3. 58	-0.29 $+0.38$ -0.22 $+1.04$ $+2.31$	16.91 17.52 18.25 19.48 18.38	-0.06 +2.37 -0.46 +6.56 +9.81	5. 40 8. 24 5. 83 11. 01 12. 65	1.83 1.55 1.40
Georgia Florida Ohio Indiana Illinois	72. 0 75. 5 60. 7 62. 3 62. 7	0.0 +0.9 +3.3 +4.3 +3.8	57. 4 66. 1 41. 3 42. 4 41. 8	+2.3 +2.2 +2.6 +2.6 +2.6	99 99 96 92 91	40 50 27 35 36	3. 39 4. 26 3. 58 4. 12 4. 23	+3.79 +3.16 +1.11 -0.50 -0.64	20. 25 16. 08 15. 97 17. 16 15. 18	+9, 82 -0, 45 +1, 69 +2, 89 +2, 47	9.39	2. 54 1. 87
Michigan. Wisconsin. Minnesota. Lowa. Missouri.	53. 7 54. 8 54. 3 60. 5 64. 9	+5.9 +6.1 +5.9 +2.9 +2.3	32. 7 31. 8 28. 1 36. 2 45. 2	+2.4 +1.6 +1.6 +2.9 +1.8	93 92 94 91 97	25 29 26 34 38	3. 92 3. 42	-0.38 -0.40 -0.35 -1.04 -1.77	11. 43 10. 57 8. 13 11. 40 16. 30	+1, 63 +2, 27 +0, 84 -0, 36 +2, 54	6. 92 7. 55 6. 65 8. 36 6. 86	1.29 0.47
North Dakota South Dakota Nebraska Kansas Kentucky	52. 6 55. 2 59. 1 63. 4 65. 6	+3.7 +2.7 +1.2 +1.2 +2.3	25. 9 32. 2 38. 1 44. 3 47. 7	+0.4 -0.3 $+0.4$ $+0.7$ $+2.9$	93 90 92 92 94	24 23 26 33 35	2. 55 3. 64 3. 59 4. 02 3. 95	+0.56 -0.05 -0.82 +0.04 -0.08	5. 79 7. 54 8. 47 9. 80 20. 54	+0.66 +0.16 -0.77 +4.81 +1.51	6.82 13.75 6.18 9.81 9.39	1. 23 0. 80 1. 05 0. 90 1. 50
Tennessee. Alabama. Mississippi. Louisiana. Texas.	67. 0 71. 5 71. 6 73. 8 73. 0	+1.5 +0.5 +1.1 +1.2 +2.0	50.8 57.0 57.7 61.0 59.3	+2.4 +2.4 +1.8 +2.0 +0.8	92 97 95 97 105	31 45 47 46 33	4.07	+0.57 $+2.63$ $+1.34$ $+2.45$ $+1.14$	23, 44 24, 04 25, 40 22, 09 12, 07	+4.81 +10.11 +8.62 +10.01 +6.58	8. 32 11. 71 12. 36 13. 09 12. 90	2. 37 3. 42 2. 70 2. 50 Trace.
Oklahoma. Arkansas. Montana Wyoming. Colorado	67.7 69.2 50.8 48.5 51.3	+1.4 $+1.6$ -0.3 $+0.3$ $+0.3$	51. 5 53. 2 33. 1 32. 0 35. 7	+0.5 +1.3 -3.8 -3.5 -1.4	100 100 96 92 91	34 40 18 6 2	$\frac{5.12}{2.37}$	+0.56 -0.12 +0.03 -0.04 -0.41	13. 09 22. 11 6. 20 6. 64 7. 03	+6. 19 +4. 48 +0. 20 -0. 22 -0. 08	10. 42 12. 69 7. 07 9. 23 4. 67	1. 16 1. 57 0. 64 0. 11 Trace.
New Mexico	59. 3 65. 5 54. 4 56. 2	$+0.6 \\ +1.8 \\ +0.2 \\ +0.3$	- 1	-1.2 -2.2 -3.9 -4.4	99 112 99 104	11 17 3 15	0.33 1.21	-0.19 +0.05 +0.02 -0.29	4.65 4.64 6.77 4.78	-0.74 +0.14 +0.41 +0.25	4. 05 2. 40 3. 43 2. 42	0.00 0.00 0.00 Trace.
Idaho	52. 2 54. 5 53. 3	-0.5 -0.7 +0.7 +0.7	36. 2 41. 9 42. 7 52. 9	-4.3 -3.6 -3.0 -2.7	93 98 100 111	10 16 10 10	1, 98 2, 04	-0. 49 -0. 74 -0. 75 +0. 04	9. 10 15. 06 16. 01 17. 44	-1. 05 -3. 90 -2. 01 -1. 17	3. 23 8. 05 5. 38 5. 47	0. 20 0. 00 Trace. 0. 00

 $\begin{tabular}{ll} \textbf{TABLE 563.--Temperature and precipitation statistics as recorded by the Weather Bureau-Continued.} \end{tabular}$

JUNE, 1922.

		Ten	perat	ure (°	F.).			Prec	ipitati	on (inche	es).	
State.	June,	1922.	Jan. June 19	1 to e 30, 22.	Extre June,	mes, 1922.		, 1922.	Ju	. 1 to 1e 30, 922.	Extre mon tota	thly
state.	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal	Total departure.	Normal.	Total depar- ture.	Greatest.	Least.
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.		$+0.6 \\ +2.0$	36. 2 37. 4 36. 7 41. 9 43. 1	+0.5 +0.6 +0.8 +1.6 +1.5	93 93 92 96 91	33 35 33 42 43	3. 09 3. 41 3. 29 3. 07 2. 90	+5.70 +5.81 +4.69 +5.11 +3.02	19. 18 18. 14 17. 24 20. 85 21. 20	+4.77 +7.66 +5.99 +4.09 -0.02	11. 71 11. 92 10. 35 11. 14 8. 50	2. 45 6. 50 5. 76 2. 61 2. 68
Connecticut. New York New Jersey Pennsylvania Delaware		+1.5 +2.5 +1.9	42. 0 40. 2 46. 1 44. 8 49. 8	+1.8 $+1.9$	92 96 95 96 93	40 32 39 30 50	2. 98 3. 59 3. 79 4. 20 3. 79	+3.85 +4.26 +2.52 +0.91 +1.52	22. 29 18. 96 22. 28 21. 25 21. 75	+2.02 +3.92 +0.50 -1.14 -0.16	11.50	4. 95 3. 38 2. 97 1. 78 4. 29
Maryland Virginia. West Virginia. North Carolina South Carolina.	69. 9 71. 4 68. 9 73. 3 77. 6	+2.9 +1.9 +1.8 +1.5 +0.6	48. 8 51. 3 48. 1 55. 1 59. 8	+1.9	97 100 97 98 101	38 43 33 38 52	4.10 4.39 4.21 5.01 4.90	+1.02 +0.73 +0.45 +1.40 +0.58	21. 01 21. 91 22. 46 24. 49 23. 28	+0.96 $+3.10$ -0.01 $+7.96$ $+10.39$	9.35 10.08 7.95 12.74 11.76	2. 05 1. 01 1. 75 2. 36 2. 62
Georgia Florida Chio Indiana Ulinois	78. 2 79. 7 69. 4 71. 7 71. 5	$+0.4 \\ +1.5 \\ +1.4$	60. 8 68. 3 46. 0 47. 3 46. 7	+2.0 +1.9 +2.4 +2.4 +2.6	104 103 98 101 101	48 60 37 40 38	6.66	+0.45 -0.37 -0.76 -1.91 -2.86	24. 88 22. 74 19. 71 21. 00 19. 03	+10.27 -0.82 +0.93 +0.98 +0.11	9.00 15.11 7.57 4.18 5.00	1, 29 0, 54 1, 05 0, 07 0, 12
Michigan. Wisconsin. Minnesota. Iowa. Missouri	63. 4 64. 4 63. 8 69. 1 73. 4	+1.7 +2.6 +3.1	37.8 37.3 34.0 41.7 49.9	+2.2 +1.6 +1.7 +2.9 +2.0	98 98 102 104 108	26 30 34 38 43	2.97 4.16 4.00 4.38 4.55	+0.48 +0.18 -1.00 -2.56 -2.89	14. 40 14. 73 12. 13 15. 78 20. 85	+2.11 +2.45 -0.16 -2.92 -0.35	8.76 10.11 6.18 7.19 3.57	0.78 0.36 0.99 0.28 0.18
North Dakota South Dakota Nebraska Kausas Kentucky	62. 8 65. 4	+0.7 +3.0 +2.9 +2.3 +1.7	32.1 37.8 43.3 49.1 52.0	$^{+0.8}_{+1.0}$	108 107 105 105 100	30 32 31 40 44	3.50 4.05 3.76 4.23 4.18	+0.26 -0.33 -1.35 -1.87 -1.08	9. 29 11. 59 12. 23 14. 03 24. 72	+0.92 -0.17 -2.12 +2.94 +0.43	7.54 7.60 7.98 6.03 6.86	0.64 0.76 0.20 0.33 0.35
Tennessee. Alabama. Mississippi Louisiana Texas.	74. 4 78. 1 78. 7 80 1 80. 2	+1.4 +0.6 +0.9 +0.3 -0.7	54. 8 60. 5 61. 2 64. 2 62. 8	+2.2 +2.1 +1.6 +1.7 +0.6	101 102 104 102 107	38 50 53 55 48	4.41 4.18 4.32 4.74 3.19	-0. 29 -0. 54 -0. 59 +0. 87 +0. 36	27. 85 28. 22 29. 72 26. 83 15. 26	+4. 52 +9. 57 +8. 03 +10. 88 +6. 94	7. 60 7. 97 8. 51 10. 35 15. 05	1.19 T. 1.12 2.37 0.05
Oklahoma Arkansas Montana Wyoming Colorado	76. 5 76. 8 59. 6 58. 5 60. 7	+1.8 +3.6 +3.2	55. 7 57. 2 87. 5 36. 4 39. 9	-2.4	106 104 101 105 106	44 44 24 15 12	4. 03 4. 08	-2.29 -1.44 -0.37 -0.31 -0.57	17. 12 26. 19 8. 76 8. 32 8. 47	+3.90 +3.04 -0.17 -0.53 -0.65	5. 77 6. 35 7. 54 5. 42 4. 20	0.19 0.32 0.12 T. T.
New Mexico Arizona Utah Nevada	68. 3 75. 0 63. 6 65. 1	+1.2 +2.4 +4.0 +3.6	49. 0 56. 8 43. 0 46. 4	-1.5 -2.6	108 120 109 113	24 17 24 27	1.64 0.40	-0. 18 +0. 22 -0. 25 +0. 01	6. 29 5. 04 7. 45 5. 30	-0.92 +0.36 +0.16 +0.26	7. 20 3. 57 2. 02 2. 40	0.00 0.00 0.00 0.00
Idaho Washington Oregon California	60. 4 60. 0 59. 8 68. 3	+4.6	45.6	-2.2 -1.8	107 97 104 123	22 30 24 25	1.44	-0.34 -1.38 -0.65 -0.10	10.34 16.64 17.45 17.77	-1.39 -5.28 -2.66 -1.27	2.56 1.50 3.27 2.80	T. 0.00 T. 0.00

 $\begin{array}{c} {\rm Table} \ 563. -- Temperature \ and \ precipitation \ statistics \ as \ recorded \ by \ the \ Weather \ Bureau-Continued. \end{array}$

JULY, 1922

		Temp	eratur	e (° F.	.).			Precip	ıtatıon	(inche	es)	
State.	July,	1922.	Jan. July 19	1 to y 31, 22.	Extr. July,	emes, 1922.	July,	1922.	Jul	1 to y 31, 22.	Extre mon tota	thly
State.	Normal.	Average dally departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total depar- tue.	Normal	Total departure	Greatest.	Least.
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.	67. 2 67. 9 68. 0 70. 3 70. 1	-0.5 -0.5 -0.3	40. 9 41. 7 41. 2 46. 0 47. 0	+0.3 +0.4 +0.6 +1.3 +1.1	92 94 92 94 90	39 39 36 45 50	3. 64 3 62 4 03 3. 63 3 28	-0. 94 -0. 90 -2. 03 +0 47 +0. 85	22. 82 21. 76 21. 27 24. 48	+3.83 +6.76 +3.96 +4.56 +0.83	6. 48 4. 84 3. 08 7. 17 6. 88	1. 15 1. 41 0. 98 1. 30 1 82
Connecticut. New York. New Jersey. Pennsylvania. Delawaie.	70. 3 69. 6 78. 7 72. 1 76 5	-0.5	46. 1 44. 4 50. 0 48. 7 53. 6	$^{+1.5}_{+1.6}$	95 100 98 98 96	42 37 44 38 56	4.79	$^{+0}$ 02 $^{-0}$ 63 $^{+1}$ 00 $^{-0}$ 53 $^{+1}$ 79	27. 09 22. 88 27. 07 25. 46 26. 35	+2 04 +3.29 +1 50 -1.67 +1.63	7.05 12.40 9 26 7.58 9.54	3 13 0 63 2. 29 1 45 2. 57
Maryland Virginia. West Virginia. North Carolina. South Carolina.	74. 9 75. 5 73. 0 68. 3 79. 8	$ \begin{array}{r} -0.2 \\ -0.1 \\ +0.5 \\ +0.1 \end{array} $	52 5 54.8 51.7 57.0 62.7	+1.5 $+1.4$ $+1.9$ $+1.7$ $+1.0$	99 99 99 100 101	43 48 43 50 58	4 44	+1.41 +2.22 -0.19 +1.05 +1.22	26, 35	+2 37 +5 32 -0. 20 +9. 01 +11 61	11. 78 16 25 8 05 12. 52 12. 58	1 83 2, 20 1, 16 2 40 3, 50
Georgia Florida Ohio. Indiana Illinois.	80. 1 81. 1 73. 8 75. 3 75. 9	-0.9	63. 6 70. 1 49. 9 51. 3 50. 9	+1.7 $+1.6$ $+1.9$ $+1.9$ $+2.1$	101 101 99 101 102	57 57 41 43 41	3.85 3.45	-0.81 -0.89 -0.15 +0.04 +0.25	23. 56 24. 45	+9.46 -1.71 +.78 +1.02 +0.36	16.02 8.45 9.05	1. 60 1 68 1. 25 0. 80 1. 20
Michigan. Wisconsin. Minnesota. Lowa. Missouri.	68. 5 69. 2 69. 0 74. 1 77. 5	$ \begin{array}{r} -2.1 \\ -1.7 \\ -2.6 \end{array} $	42. 2 41. 8 39. 0 46. 8 53 8	+1.7 +1.1 +1.2 +2.1 +1.6	100 99 100 98 103	29 31 38 40 46	3. 11 3. 64 3. 66 3. 96 4. 03	+0.71 $+0.22$ -1.40 $+2.35$ $+1.82$	17. 51 18. 37 15. 79 19. 74 24. 88	+2, 82 +2, 67 -1, 56 -0, 57, +1, 47	7. 37 7. 68 5 35 11. 72 17. 68	0. 48 1. 39 0. 40 3. 13 1 92
North Dakota	67. 5 70. 9 74. 6 78. 1 76. 7	-1.9 -1.7 -2.0 -1.1 -0.3	37. 1 42. 5 47. 7 53. 2 55. 5	+0.1 0.0 +0.4 +0.7 +2.3	100 104 106 109 102	30 33 35 42 47	3.44	-0.21 +0 55 +1.10 +1.49 +0.47	15. 67 17. 61	+. 71 +. 38 -1. 02 +4. 43 +. 90	6. 15 8. 82 9. 08 13. 62 9. 06	0.60 0.44 1.08 0.71 1.55
Tonnessee. Alabama. Missussippi Loussana Texas.	77. 5 79. 9 80. 7 81. 8 82. 9	-0.1 0 0 -0.2 -0.4 +0.5	58. 0 63. 3 64. 0 66. 7 65. 7	+1.9 +1.8 +1.4 +1.4 +0.6	101 100 100 108 110	48 53 53 52 58	4. 72 5. 45 5. 06 6. 31 2. 73	+0.86 -1.06 -0.42 -0.46 -0.99	32.57 33.67 34.78 33.14 17.99	+5.38 $+851$ $+7.61$ $+10.42$ $+5.95$	10. 56 12 85 10. 35 12 25 10. 16	1.05 1.76 1.82 2.34 0.00
Oklahoma Arkansas. Montana. Wyoming Colorado	81. 0 79. 9 66. 2 65. 0 62. 8	+0.7 +0.3 -0.4 -0.9 +3.5	59. 3 60. 4 41. 6 40. 5 43. 1	+0.7 +1.3 -2.3 -2.2 -0.1	112 106 103 102 105	50 48 29 21 27	3. 92 1. 25 1. 35	+0.97 +0.20 +0.48 +0.24 -0.33	30. 11 10. 01 9. 67	+4 87 +3. 24 +0. 31 29 -0. 98	9.85 8.90 4.45 5.78 5.15	0.44 0 96 0.34 0.01 0.04
New Mexico	72. 7 79. 9 70. 7 73. 0	+1.3 +1.6 +0.9 +1.1	52 4 60. 1 47. 0 50. 2	-0.5 -1.0 -2.1 -2.5	110 119 112 116	30 39 32 33	2. 57, 2. 48 0 92 0. 35	-1. 25 -0. 69 -0. 17 +0. 19	8, 86 7, 52 8, 37 5, 65	-2.17 -0.33 01 +.45	4.59 6.29 2.16 1.80	0.00 0.00 0.00 0.00
Idaho Washington. Oregon. California	66. 9 66. 0 66. 0 73. 2	+1.1 +1.7 +2.3 +0.2	44. 1 47. 9 48. 5 58 0	-2.3 -1.7 -1.3 -1.8	113 111 114 126	25 32 21 28	0.75 0.57	-0.26 -0 72 -0.52 +0.07	17.39 18.02	-1.65 -6.00 -3.18 -1.20	2.11 0.61 0.59 7.10	0. 00 0. 00 0. 00 0. 00

Table 563.—Temperature and precipitation statistics as recorded by the Weather Bureau— Continued

AUGUST, 1922.

		Ten	perat	ure (°	F.).			Pre	cipitat	ion (inch	nes).	
State.	Aug.,	1922.	Jan. Aug 195	. 31,	Extre Aug.,			, 1922.	31,	, to Aug. 1922.	Extre mon tot	thly
Section.	Normal.	Average daily departure.	Normal	Average daily departure.	Highest.	Lowest.	Normal.	Total depar- ture.	Normal.	Total depar- ture.	Greatest.	Least
Maine New Hampshire Vermont Massachusetts Rhode Island	65. 0 65. 1 65. 0 68. 2 66. 8	+0.3	43.7 44.6 44.2 48.8 49.4	$+0.4 \\ +0.5 \\ +1.2$	94 94 91 96 91	34 38 34 44 48	3.54 4.41 3.82 3.76 3.69	+1.43 $+0.10$ $+0.88$ $+1.79$ $+5.69$	26. 36 26. 17 25. 09 28. 24 31. 17	+5. 26 +6. 86 +4. 84 +6. 35 +6. 52	9. 44 9. 57 7. 99 11. 63 10. 99	2. 75 2. 63 3. 07 3. 17 6. 96
Connecticut New York New Jersey Pennsylvania Delaware	68 6 67. 3 72. 1 70. 3 74. 5	$ \begin{array}{r} -0.1 \\ -0.4 \\ -0.9 \\ -1.2 \\ -1.6 \end{array} $	48. 9 47. 3 52. 8 51. 4 56. 2	$^{+1.2}_{+1.6}$	94 96 96 100 91	38 32 39 31 51	3 86	$\begin{array}{c} +1.12 \\ +0.91 \\ -0.65 \\ -1.03 \\ +0.12 \end{array}$	26 74	+3.16 +4.20 +.85 -2.70 +1.75	7. 77 9. 14 6. 78 8. 16 7. 06	3. 01 1. 20 2. 18 1. 15 2. 02
Maryland Virginia. West Virginia. North Carolina. South Carolina	73. 4 73. 5 71. 7 75. 7 78. 8	-1.8 -1.6 -2.8 -2.2 -2.4	55. 1 57. 1 54. 2 59. 3 64. 7	+1.3	98 95 98 97 98	31 37 31 39 49	4. 42 4. 45 3. 94 5. 50 6. 05	-1.23 -0.01 -0.07 -0.32 -0.98	29. 85 30. 80 31. 12 35. 91 35. 31	+1.14 $+5.31$ -0.27 $+8.69$ $+10.63$	7.51	1. 11 1. 18 1. 20 1. 64 0. 89
Georgia Florida Ohio Indiana Illinois	79. 5 81. 4 71. 8 73. 4 74. 1	$ \begin{array}{r} -1.6 \\ -1.3 \\ -1.3 \\ +0.3 \\ +1.0 \end{array} $	65. 6 71. 6 52. 7 54 1 53. 8	+1.7	103 99 101 103 104	45 59 35 42 42	6.80 3.59	-2.05 $+1.44$ -0.33 -1.15 -1.62	37. 27 27. 15	+7.41 -0.27 +.45 -0.13 -1.26	8. 18 19. 35 7. 47 5. 28 2. 21	0. 86 1. 46 0. 79 0. 48 0. 21
Michigan Wisconsin Minnesota Iowa Missouri	66.3 66.7 66.4 71.8 76.3	+1.0 $+1.9$ $+39$ $+2.0$ $+1.2$	45 2 44. 9 42 4 49. 5 56. 6	+2.1	102 97 105 102 107	30 31 28 42 46	2. 88 3. 39 3. 37 3. 68 4. 00	-0.74 -1.38 -1.59 -0.62 -1.60	20. 39 21. 76 19. 16 23. 42 28. 88	+2.08 +1.29 -3.15 -1.19 -0.13	5. 18 7. 32 3. 88 9. 80 6. 22	0.56 0.35 0.42 0.33 0.13
North Dakota. South Dakota. Nebraska Kansas. Kentucky.	65. 4 69. 9 72. 8 77. 2 75. 7	+4.4 +4.0 +3.7 +2.9 -0.5	40. 7 45. 9 50. 9 56. 2 58. 0	+0.7 +0.5 +0.8 +1.0 +1.9	115 108 109 113 101	33 37 37 48 47	2. 28 2. 65 2. 77 3. 17 3. 56	-0.92 -1.14 -1.00 -1.70 -1 13	14. 18 17. 55 18. 44 20. 78 32. 58	21 76 -2. 02 +2. 73 -0. 23	4. 70 4. 46 5. 87 5. 49 5. 82	0. 14 0. 05 0. 12 0. 00 0. 61
Tennessee	76.5 79.6 80.4 81.5 82.6	-0.9 -0.7 -0.3 -0.2 +1.8	60.3 65.3 66.0 68.6 67.8	$+1.5 \\ +1.2 \\ +1.2$	102 101 101 103 114	46 52 54 55 52	5.17	-1.08 -1.54 -1.17 $+0.09$ -1.43	36. 76 38. 48 39. 14 38. 31 20. 59	+5.30 +6.97 +6.44 +10.51 +4.52	9. 28 7. 88 9. 43 10. 21 6. 31	0.37 1.07 0.10 0.74 0.00
Oklahoma Arkansas Montana Wyoming Colorado	80.6 79.4 64.4 63.3 64.2	+3.0 +1.0 +3.4 +4.1 +2.8	62. 0 62. 8 44. 4 43. 4 45. 8	$^{+1.0}_{+1.2}$ $^{-1.6}_{-1.4}$ $^{+0.3}$	118 111 104 103 104	49 51 31 21 25	2.97 3.83 1.12 .95 2.02	-1.79 -1.93 $+0.24$ $+0.55$ $+0.11$	23. 20 33. 94 11. 13 10. 62 12. 70	+3.08 +1.31 +0.55 +.26 -0.87	5.66 8.43 3.69 3.75 7.39	T. 0.21 0.00 0.16 0.07
New Mexico	70.4 78.6 69.4 71.2	$+2.5 \\ +1.4 \\ +1.8 \\ -0.5$	54.7 62.4 49.8 52.8	-0.1 -0.7 -1.6 -2.2	110 118 107 110	36 42 36 25	2.42 2.29 •99	-0.88 $+0.04$ $+1.04$ $+0.72$	11.28 9.81 9.36 6.07	-3.05 -0.29 $+1.03$ $+1.17$	9. 93 7. 40 7. 45 5. 29	0.00 0.09 T. T.
Idaho	65.8 65.1 66.4 72.5	$^{+2.3}_{-1.0}$ $^{0.0}_{-1.2}$	46. 8 50. 1 50. 7 59. 8	-1.8 -1.3 -1.1 -1.8	108 104 104 122	23 32 22 27	0. 77 0. 46	+0.88 +0.72 +0.51 -0.02	11.76 18.16 18.48 17.95	-0.77 -5.28 -2.67 -1.22	3.55 5.29 6.68 2.35	0. 10 0. 10 0. 00 0. 00

SEPTEMBER, 1922.

551 1555511, 1982.													
		Ten	nperati	ure (° I	F.).			Preca	pitatio	on (inc	bes).		
Ototo	Sep 192	t., 2.	Jan. Sept 192	. 30,	Extre		19	ot., 22.	Sept 19	1 to 3. 30, 22.	Extre mont tota	hlv	
State.	Normal	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total depar- ture.	Greatest.	Least.	
Maine New Hampshre Vermont Massachusetts Rhode Island.	57. 8 57. 6 57. 5 61. 7 63. 2	+0.2 +1.7 +2.3 +1.5 +1.1	45. 3 46. 1 45. 7 50. 2 51. 0	$+0.6 \\ +0.7 \\ +1.2$	88 88 90 89 89	18 24 20 30 34	3. 51 3. 45 3. 47 3. 39 3 27	-1.14 -1.40	29.87 29.62 28.56 31.63 34.44	+3.61 +5.72 +3.44 +6.05 +5.11	2. 94 3. 20 2. 85 5. 41 3. 28	0.65 1.36 1.49 0.83 0.84	
Connecticut New York New Jersey Pennsylvania Delaware	61. 8 60. 9 65. 6 63 3 68. 2	+1.8 $+1.9$ $+1.1$ $+3.0$ $+0.7$	50. 3 48. 8 54. 2 52. 7 57. 5	$+1.2 \\ +1.4$	94 100	26 22 27 22 39	3.71	-0.98 -1.33 -1.45 -1.79 -0.85	35.46 32.90	+2.18 +2.87 -0.60 -4.49 +0.90	5. 22 3. 73	1, 38 0, 70 0, 59 0, 17 0, 99	
Maryland Virgmia. West Virginia. North Carolina. South Carolina	67.2	+1.2 +1.6 +1.5	56. 4 58. 3 55. 5 60. 5 65. 7	$+1.0 \\ +1.3 \\ +1.2$	98 100	31 25 37	3.06 3.34 2.74 3.85 3.86	-0.48 -2.11 -0.60 -2.23 -2.70	32.94 34.14 33.86 39.74 39.16	+0.66 +3.20 -0.87 +6.46 +7.93	7.30 6.27 5.64 7.48 3.68	0.69 0.00 0.10 0.00 0.00	
Georgia Florida Onto Indiana Illinois	75. 0 79 3 65 5 66. 7 67. 0	+2.7 +3.9	66. 6 72. 4 54. 1 55. 5 55. 3	+1.0 +1.6 +1.9	104 101 98 103 103	49 29 32	3.0 3.5	7 - 2.10 $2 + 0.73$ $7 + 0.14$ -1.15 -1.57	30.71 29.30	+5.31 +0.46 +0.59 -1.28 -2.83	7.32	0.10 1.17 0.16 0.47 0.44	
Michigan Wisconsin Minnesota Lowa Missouri		$\begin{vmatrix} +2.8 \\ +4.3 \\ +3.7 \end{vmatrix}$	44. 2 51. 1	$\begin{vmatrix} +1.4 \\ +1.9 \\ +2.3 \end{vmatrix}$	104 105 103	23 24 31	2.8 3.5 2.9 3.3 3.8	$ \begin{array}{c} +0.76 \\ -0.03 \\ -0.96 \\ -1.33 \\ -0.57 \end{array} $	23. 26 25. 29 22. 09 26. 78 32. 76	$\begin{array}{c} +2.84 \\ +1.26 \\ -4.11 \\ -2.52 \\ +0.44 \end{array}$	5.43 4.34	1.04 1.38 0.13 0.31 0.15	
North Dakota South Dakota Nebraska Kansas Kentucky	56. 4 60. 9 63. 9 69. 3 70. 0	+4.4 +4.7 +3.8	52.3	+0.9 +1.2 +1.3	1111	25 25 35	1.6 1.8 2.1 3.0 2.7	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	15. 82 19. 38 20. 54 23. 80 35. 34	$\begin{array}{c} +0.31 \\ -2.23 \\ -3.27 \\ +1.95 \\ -0.77 \end{array}$	4.89 6.63	T.	
Tennessee Alabama Mississippi Louisiana Texas	70.0	+2.5 +1.5 +0.9	09.0	+1.6 +1.2 +1.2	2 105 2 102	45 46 51	3.0 3.5 3.3 3.7 2.8	$ \begin{array}{c} -1.32 \\ -2.04 \\ -1.95 \\ -0.76 \\ -0.34 \end{array} $	39 85 42.03 42.45 42.07 23.40	5 + 3.98 $+ 4.93$ $+ 4.49$ $+ 9.75$ $+ 4.18$	4.40 4.70 5.33 8.33 18.21	0.00	
Oklahoma Arkansas Montana Wyoming Colorado		+2.3 $+4.2$ $+4.0$	44.0	+1.3 -0.9	100	37 20 15	1.3	$ \begin{array}{c} -1.57 \\ -2.08 \\ -0.73 \\ -1.01 \\ -1.08 \end{array} $	26. 18 37. 25 12. 55 11. 95 14. 16	+1.51 -0.77 -0.18 -0.75 -1.92	4.20 5.89 2.47 1.68 2.33	0.04 T. 0.00 0.00 0.00	
New Mexico. Arizona. Utah. Nevada.		+2.4	55. 7 63. 7 51. 0 53. 9	-0.4 -1.6	118	33	1.4 1.1 1.1 1.0.4	7 -0.58 6 -0.06 1 -0.87 4 -0.44	12.74 10.97 10.47 6.51	$ \begin{array}{r} -3.58 \\ -0.38 \\ +0.16 \\ +0.73 \end{array} $	2.10	0.00 T. 0.00 0.00	
Idaho	1	+3.4 +2.7 +2.9	47.9 51.0 51.6	-0.9 -0.9	7 100	2	2) 1.4	6 -0.71 9 -0.06 3 -0.45 5 -0.50	19.7	1 -3. 10	8.08 4.98	0.00	

 $\begin{array}{c} \texttt{Table 563.--} \textit{Temperature and precipitation statistics as recorded by the Weather Bureau--} \\ \texttt{Continued.} \end{array}$

OCTOBER, 1922.

		Ter	nperat	ure (°	F).			Prec	ipitatı	on (inche	es).	
State.	Oct.,	1922.	Jan. Oct. 31	1 to .,1922.	Extre	emes, 1922.	Oct.,	1922.	Oct. a	1. 1 to 31, 1922.	Extro mon tota	thly
Diddo.	Normal.	Average daily departure.	Normal	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total depar- ture.	Greatest	Least.
Maine New Hampshire Vermont Massachusetts Rhode Island	46 1 46 2 45 5 50 5 52 7	$ \begin{array}{r} -0.3 \\ +0.9 \\ +0.5 \\ +2.3 \\ +0.8 \end{array} $	46 1 45.6 50.2	$+0.6 \\ +0.7 \\ +1.4$	87 88 90 92 87	11 12 10 19 23	3 60 3.21 2.86 3.75 4.03	$ \begin{array}{r} -1.01 \\ -1.00 \\ -0.71 \\ -1.16 \\ -0.90 \end{array} $	33.47 32.83 31.42 35.38 38.47	+2 60 +4.72 +2.73 +4 89 +4 21	3 43 3.59 3 56 5 34 3 70	1.26 1 07 1.50 1 42 2 66
Connecticut New York New Jorsey Pennsylvania Delaware	51 1 50.3 55 0 52.3 57 3	+16	50 4 48 9 54 3 52.7 57 5	+1.1 +1.2 +1.5	89 90 92 94 89	13 8 18 12 28	3.73 3.31	-0.92 -0.96 -2.25 -0 80 -1 68	39 21 33.51 39.19 36 21 37.22	$ \begin{array}{r} +1.26 \\ +1.91 \\ -2.85 \\ -5.29 \\ -0.78 \end{array} $	4.35 4.74 2.70 5.60 1.65	2 40 1.17 0 55 0.65 0.89
Maryland Virgima. West Virgima. North Carolina. South Carolina.		$+20 \\ +05 \\ +1.2$	58 2 55.4 60 4	$+1.1 \\ +1.3 \\ +1.2$	94 95 93 93 94	15 19 18 22 31	3.69	$ \begin{array}{r} -0.91 \\ +0.11 \\ -0.50 \\ +1.05 \\ +2.48 \end{array} $	35 78 37-23 36 81 43 19 42-25	-0 25 +3 31 -1.37 +7 51 +10.41	5 58 6.55 4.81 8.34 9.00	0 74 0.80 0 39 1.67 3 04
Georgia Florida Ohio Indiana Illinois	64 8 73 2 53 6 54 6 55.2	$\begin{array}{c c} +1.3 \\ +2.2 \\ +3.2 \end{array}$	54 0	$+1.3 \\ +1.0 \\ +1.7 \\ +2.0 \\ +2.2$	94 96 93 98 96	28 38 21 24 22	2.82 4.55 2.67 2.70 2.58	+0 91 +3 73 -0 89 +0.17 -0 30	42 66 48.84 32.49 33 41 31 88	+6.22 +4 19 -0 30 -1 11 -3 13	8.67 23.89 3 43 4 83 5.76	1 29 1 50 0 54 0 95 0 13
Michigan Wisconsin Minnesota Iowa Missouri	i .	$+3.9 \\ +5.3$	47 0 46 7 44.3 51 0 58.0	+2.6	94 90 95 96 97	10 11 9 14 18	2 68 2 63 2.02 2.46 2.77	$\begin{array}{c} -0.53 \\ -1.62 \\ -1.02 \\ -0.65 \\ -0.77 \end{array}$	25 94 27.92 24 11 29 24 35.53	+2.31 -0.36 -5.13 -3.17 -0.33	3 88 2 13 2.50 3.93 3 83	0 39 0 24 T. 6 06 0 51
North Dakota South Dakota Nebraska Kansas Kentucky	43 8 47.6 51.1 56.5 57.8	+3.6 +2.8	57.6	$+1.2 \\ +1.5 \\ +1.4$	98 102 99 97 96	8 4 5 13 25	1.00 1.49 1.56 1.86 2.50	-0 43 -0.66 -0 93 -0 59 -0 26	16 82 20.87 22.10 25.66 37 84	-0.12 -2.89 -4.20 $+1.36$ -1.03	1 70 2.69 2.89 3.87 4 41	0 00 T. 0.80 0.00 0 76
Tennessee		+0.6	66.9 69.4	+1.6 +1.5 +1.2 +1.1 +0.7	96 92 95 95 103	22 32 31 32 25	2.58 2.87	-1 46 -0.42 -0.95 -0.16 -0.46	42.80 45.01 45.05 44.94 26.08	+2.52 +4.51 +3.54 +9.59 +3.72	3.90 5 83 4.44 6 79 7.44	0.56 T. 0.28 0.01 0.00
Oklahoma Arkansas Montana Wyoming Colorado	61 6 62 3	+0.8 +4.0 +3.0	63.8 45.5 44.4	-0.4	98 98 95 98 99	21 20 8 0 1	3.00 1.15 1.13	-0.83 -1.53 -0.57 -0.29 -0.83	28 85 40.27 13 68 13 05 15.44	+0 68 -2.30 -0 75 -1 04 -2.75	5.00 4.35 3.14 2.05 1.43	0 01 0.15 0.00 T. 0 00
New Mexico Arizona Utah Nevada	53.5 62.0 48.8 50.7	+1.2	63.5 50.8	-0.2 -0.8	98 106 94 98	-3 3 9 4	1.24 0.87 1.26 0.59	-0.90 -0.56 -0.54 -0.27	13.99 11.84 11.73 7.10	-4 48 -0 91 38 +.46	2.11 1.63 3.22 1.15	0 00 0 00 T. 0 00
Idaho. Washington. Oregon California.		+2 4 +1 4	50.8 51.5	-04	94 87 88 103	17 5 13	1 34 2.59 2.12	-0 63 +0.04 +0 42 +0.23	14.06 22.34 22.03 19.78	-2.11 -5 29 -2.73 -1 49	4.58 11.20 9.58 6.75	0.00 0.15 0.08 0.00

 $\begin{array}{c} {\tt Table \ 563.--} {\it Temperature \ and \ precipitation \ statistics \ as \ recorded \ by \ the \ Weather \ Bureau-Continued} \end{array}$

NOVEMBER.

		Ten	aperat	ure (°	F.).			Pre	cipitat	ion (inch	es).	
State.	Nov	, 1922.	Jan. Nov 192	. 30.	Extre Nov.,		Nov.	, 1922.	No	. 1 to v. 30, 022.	Extre mon tota	hly
State.	Normal.	Average daily departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal	Total departure.	Normal.	Total departure.	Greatest.	Least.
Maine New Hampshire Vermont Massachusetts Rhode Island	33.7 34 0 33 7 39.9 42.6	$+0.9 \\ +1.5 \\ +1.8 \\ +1.2 \\ -0.8$	44.3 45 0 44 6 49 3 50.4	+0 3 +0 7 +0 8 +1 3 +0.6	66 65 66 74 64	9 5 3 5 19		-1.48 -1.69 -1.37 -2 40 -3 04		+1 12 +3.03 +1.36 +2 49 +1 17	2 71 2.86 2.87 1.56 1 19	0.97 0 92 0 78 0 56 0 54
Connecticut	40.5 37 5 43.0 40.7 45.8	0.0 +2 1 +1.3 +2 2 +1.2	49.5 47.9 53.3 51.6 56.5	$^{+1.5}_{+1.2}$ $^{+1.2}_{+1.6}$ $^{+0.8}$	76 70 73 73 74	9 -1 13 12 23	3.69 2.79 3.20 2.67 2.76	-2 33 -1.37 -2.29 -1.46 -1.94	42.90 36 30 42.39 38 88 39.98	+1 07 +0 54 -5 14 -6 75 -2.72	1.96 3.57 1.56 4.52 1.12	0 89 0 24 0.49 0 23 0 53
Maryland Virginia West Virginia North Carolina South Carolina	44.7 46.2 42.7 49 2 53 9	$+1.5 \\ +1.8 \\ +1.1 \\ +0.8 \\ +0.9$	55. 4 57. 2 54. 2 59. 4 64. 5	$+1.2 \\ +1.1 \\ +1.2 \\ +1.2 \\ +0.7$	75 87 80 88 88	14 5 2 4 17	2.46 2.37 2.55 2.47 2.28	-1.81 -1.80 -1.40 -1.84 -1 67	38 24 39 60 39.36 45 66 44 53	-2.06 $+1.51$ -2.77 $+5.67$ $+8.74$	1.27 1.62 2.49 1.82 1.29	0 40 0 07 0 17 T 0.00
Georgia. Florida. Ohio Indiana Illinois.	54.7 65.2 41.1 42.1 41.9	+2.3 +2.6 +2.8 +2.9 +3.1	65.4 71 8 52.9 54.2 54.0	$+1.4 \\ +1.2 \\ +1.8 \\ +2.1 \\ +2.3$	87 92 79 86 82	15 26 10 12 11	2 89 2 69 3 06	-1.73 -1.29 -1.13 -0.81 +0 38	51.73 35.18 36.47	$ \begin{array}{r} +4.49 \\ +290 \\ -143 \\ -1.92 \\ -275 \end{array} $	2 32 3.52 2 75 3.57 5.88	0.00 0 00 0 76 1.19 1 60
Michigan	35 8 33.5 29.6 35.0 44.9	+3.6 +5.6 +6.3 +7.2 +2.9	46.0 45.5 42.9 49.6 56.8	+1.9 +1.8 +2.5 +3.0 +1.9	70 70 76 74 87	8 4 2 11 15	2 44 1.79 .91 1 51 2.37	-0 10 $+1 32$ $+2.41$ $+2.03$ $+1.45$	28.38 29 71 25 02 30.75 37.90	+2.21 $+.96$ -2.72 -1.14 $+1.12$	5 78 4.96 5 41 5.28 6.75	0 54 1 76 1.61 1.96 1.11
North Dakota South Dakota Nebraska Kansas Kentucky	26.6 32.3 36.5 44.1 46.1	+5.2 +2.8 +3.0 +1.5 +2.2	41.1 46.2 50.8 56.3 58.0	+1.4 +1.3 +1.6 +1.4 +2.0	65 69 78 80 87	-8 -2 3 7	0.76 1.20	+1 75 +2.46 +1.79 +1.57 -1.42	22.86 26.86	+1.63 -2.43 $+2.93$ -2.45	5.33 5.50 5.02 7.08 4.55	0.40 1.00 0.54 T. 0.73
Tennessee. Alabama. Mississippi Louisiana Texas.	48.4 54.3 54.8 58.9 57.0	+1.6 +3.0 +3.5 +4.0 +1.4	60.1 65.1 65.8 68.4 67.6	+1.6 +1.6 +1.4 +1.4 +0.8	82 92 90 91 95	11 18 25 29 11	3.35 3.15 3.43 3.31 2.39	-0.96 -1.27 +0.35 +0.97 +0.18	46. 15 48. 16 48. 48 48 25 28 42	+1.56 +3.24 +3.89 +10.56 +3.90	7.55	0.57 0 20 1.58 0.58 0.07
Oklahoma Arkansas Montana Wyoming Colorado	50.5 51.5 29.8 31.6 34.9	+0.9 +1.4 +1.5 -3.2 -2.3	62.0 62.7 44.0 43.2 45.8	+1.2 +1.3 -0.2 -0.7 +0.3	89 88 72 69 78	12 20 -18 -15 -23	0.93	+1.14 $+0.32$ -0.09 $+0.53$ $+0.81$	14.61 13.76	+1.82 -1.98 -0.84 51 -1.94	9.69 8.82 3.26 3.64 4.95	0 31 0.86 0.03 T.
New Mexico Arizona Utah Nevada	42.5 51.4 38.2 40.5	$ \begin{array}{r} -2.3 \\ -3.9 \\ -2.5 \\ -3.7 \end{array} $	54.3 62.4 49.6 52.4	0.0 -0.6 -0.9 -1.5	82 90 75 80	-2 -2 -5 -8	0.66 .99 1.05 0.52	+0.42 $+0.32$ $+0.47$ $+0.15$	14.65 12.83 12.78 7.62	-4.06 59 +.09 +.61	5.81 4 00 5.45 2.30	0.11 0.20 T. 0.00
Idaho Washington Oregon California.	35.5 41.0 41.2 52.8	-2.7 -3 7 -3.3	46.6 49 9 50.6 59.9	-0.9 -0.8 -0.7 -1.3	68 67 69 91	-8 3 -4 8	4.64	-1.35 -3.36 -2.55 +0.73	26 67	-3 46 -8.65 -5 28 -0.76	2.40 6.34 6.51 9.55	0.15 0 22 0 13 0 00

 $\begin{array}{c} {\rm Table} \ 563. -Temperature \ and \ precipitation \ statistics \ as \ recorded \ by \ the \ \textit{Weather Bureau-Continued}. \end{array}$

DECEMBER, 1922.

		Ten	iperat	ure (°	F.).			Pre	apitat	ion (mob	es).	
State.	Dec.,	1922.	Jan. Dec 19	1 to . 31, 22.	Extre Dec.,	mes, 1922.		1922.	Dec.	1.1 to 31, 1922.	Extremon tot	thly
State.	Normal.	Average daıly departure.	Normal.	Average daily departure.	Highest.	Lowest.	Normal.	Total departure.	Normal.	Total depar- ture	Greatest.	Least.
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.	30.2		42.1 43.1 42.6 47.7 49.0				3.62		39. 92 38. 95 37. 02 42. 57 46. 43			
Connecticut. New York New Jersey Pennsylvania Delaware.	30. 3 26. 2 32. 9 30. 7 36. 3	+0.6 -0.4 $+0.8$	47. 9 46. 1 51. 6 49. 9 54. 8	+1.1 +1.1 +1.5	66 65 69 66	-27 -8 -9 13	4. 05 3. 01 3. 97 3. 31 3. 63	$ \begin{array}{r} -0.32 \\ -0.11 \\ -0.56 \\ +0.55 \end{array} $	46. 95 39. 31 46. 36 42. 19 43. 61		5. 31 5. 26 4. 55 5. 71	0.51 3.09 1.19 2.53
Maryland Virginia West Virginia North Carolina South Carolina	34 4 37. 2 33. 4 41. 6 46. 4	$^{+3}_{+3.2}$ $^{+3.2}$	53. 6 55. 5 52. 5 57. 9 63. 0	+1.4 -1.4 $+1.5$	78	3 7 2 12 22	3 49 3.48 4.02	+0.43 +0.55 +1.23 +1.05 +1.50	42.84 49.68	$^{+2.06}_{-1.54}$ $^{+6.72}$	8. 28 7. 27 12. 03	1.03
Georgia Florida Ohio Indiana Illinois	31 9 30. 2	+5.3 $+1.6$ $+1.4$	63. 9 70. 8 51. 0 52. 3 52. 1	+1.5 +1.8 +2.1	72	22 29 -13 -19 -16	4. 23 2. 97 2. 81 2. 74 2. 14	+1.35 -0.07 +0.48 +1.48 +0 48	49. 54 54. 70 37. 99 39. 21 36. 42	+5.84 $+2.83$ -0.95 -0.44 -2.27	6.34	
Michigan. Wisconsin. Minnesota. Iowa. Missouri.	25. 0 20 1 14. 7 23. 9 33. 4	$ \begin{array}{r r} -1.5 \\ -2.1 \\ +0.1 \end{array} $	44. 3 43. 4 40. 6 47. 4 54. 8	$\begin{array}{r} +1.6 \\ +2.1 \\ +2.8 \end{array}$	61 64 60 65 75	-36 -35 -35 -25 -6	0.88 1.22	-0 56 -0.56 -0.21 -0.85 -0.14	30. 42 31. 02 25. 90 31. 97 40. 15	+1.65 +0.40 -2.93 -1.99 +0.98	5. 57 1. 67 3 10 0. 97 5. 25	0.41 0.10 T. T. 0.00
North Dakota. South Dakota. Nebraska Kansas. Kentucky.	13. 0 20. 9 25. 9 31. 2 37. 1	$ \begin{array}{r} -3.4 \\ +0.5 \\ +3.2 \end{array} $	38. 8 44. 1 48. 7 54. 2 56. 2	+0.9 $+1.5$ $+1.6$	55 60 68 75 77	-34 -34 -31 -5 5	0.61 0.72 0.92	+0.13 -0.11 -0.56 -0.85 +1.70	17. 94 22. 05 23. 58 27. 78 45. 13	+1.76 -0.54 -2.97 $+2.08$ -0.75	2.43 1.90 1.17 1.17 9.30	0.00 T. 0.00 0.00 3.79
Tennessee. Alabama. Mississippi Louisiana. Texas.	39. 9 46. 7 47. 2 51. 5 49. 5	+7.7 +7.7 +8.2	58, 5 63, 6 64, 3 67, 0 66, 1	$+1.9 \\ +2.0$	77 84 85 87 93	14 20 20 22 2	4, 56 5 12 5 27 4, 89 2, 16	+3.12 +2.30 +1.80 +1.79 -1.57	50. 71 53. 28 53. 75 53. 14 30. 58	+4.68 $+5.54$ $+5.69$ $+12.35$ $+2.33$	12. 17 11. 55 11. 93 12. 82 9. 93	4. 42 3. 95 3. 19 1. 40 0. 00
Oklahoma	39. 4 42. 1 23. 2 21. 3 24. 5	+5.7 -6.6 -0.5	60. 1 61. 0 42. 3 41. 4 44. 1	+1.7 -0.8 -0.6	84 86 60 61 75	2 12 -46 -34 -36	1.61 4.09	-0.83 $+0.50$ $+0.39$ $+0.18$ $+0.21$	32. 90 47. 93 15. 57 14. 49 17. 36	+0.99 -1.48 -0.45 -0.33 -1.73	5.08 8.28 8.10 3.21 7.42	0.00 1.00 0.10 0.00 0.00
New Mexico	33. 8 43. 4 26. 6 31. 4	+3.3	52.6 60.8 47.7 50.6	-0.2 -0.5	84 82 71 79	-7 -3 -14 -12	0.72 1.13 1.12 0.81	-0.45 -0.61 +0.83 +0.49	15. 37 13. 96 13. 90 8. 43	-4.51 -1.20 +0.92 +1.10	4.95 2.00 9.96 3.03	0.00 0.00 0.07 0.00
Idaho Washington Oregon. California	26. 2 33. 4 31. 2 46. 5	-5.5 -1.9	44. 9 48. 5 49. 0 58. 8	-1.0 -1.2 -0.8	60 69 69 84	$ \begin{array}{r} -28 \\ 32 \\ -27 \\ -10 \end{array} $		+0.99 +1.19 +2.03 +3.36		-2.47 -7.46 -3.25 +2.60	20.46	0. 33 0. 71 0. 98 0. 00

FARM OPERATIONS.

 $\begin{array}{c} {\rm Table} \ 566. {\rm --Summary} \ of \ work \ factors \ for \ operations \ with \ field \ implements \ in \ the \ United \\ States. \end{array}$

Operation or implement.	Power unit (number of horses).	Daily 1 duty per foot of width.	Range of reported widths.	Most usual width per horse.
		Acres.		Feet.
Walking plow	2 3 2 3	1.7 2.1	8 to 14 inches	0.50
Sulky plow	2	1 17	10 to 16 inches.	.44
Do	3	2.2	12 to 16 inches	.36
Do	4	2. 2 2. 3 2. 2	do. 12 to 16 inches 14 to 18 inches.	.33
Gang plow	4	2.2	1 18 to 28 inches	.58
Dō Do	5 6	2.3 2.3	24 to 28 inches	.47
	f 15-60	la.	•	.39
Traction engine gang	15-60 H. P.	2.1	4 to 30 feet	
Spike-tooth harrow				
On fresh plowingOn well-packed land	} 2	$\left\{\begin{array}{c} 1.5 \\ 1.7 \end{array}\right.$	6 to 12 feet	4.00
On fresh plowing	К .	1.6	K	1
On well-packed land	} 3	1.9	8 to 16 feet	3.50
On fresh plowing	} 4	$\left\{ egin{array}{c} 1.8 \ 2.1 \end{array} \right.$	}10 to 26 feet	4. 25
On well-packed land	, -	2.1	J. 5 00 23 1000	1 2.20
Spring-tooth harrow:		(19		î E
On fresh plowingOn well-packed land	} 2	$\left\{\begin{array}{c} 1.2 \\ 1.5 \end{array}\right.$	}4 to 8 feet	3.00
On fresh plowing. On well-packed land. On fresh plowing.	} 3	1.4	5 to 10 feet	2.33
On well-packed land	{	1.7	3 to 10 feet	2.00
On well-packed land	} 4	$\left\{ egin{array}{c} 1.6 \ 1.8 \end{array} ight.$	6 to 12 feet	2.00
Disk harrow.	,	(1.0)	ŧ.
On fresh plowing	} 2	1.1	Na to 8 fact	2.00
On well-packed land	} 4	1.2	4 to 8 feet	3.00
On fresh plowingOn well-packed land	3	1.2	6 to 10 feet	2. 25
On fresh plowing	₹	16	 {	
On well-packed land	} 4	$\left\{\begin{array}{c} 1.7 \\ 2.0 \end{array}\right.$	}do	2.00
On fresh plowing. On well-packed land. Land roller. Do.	, 2	1.7	5 to 12 feet	4.00
Do	2 3 4 2 3	1.7	do	2.00
Do Grain drill	4 9	1.8 1.46	8 to 16 feet	2. 50 3. 25
Do -	3	1. 56	4 to 8 feet. 6 to 10 feet. 6 to 12 feet.	2.50
Do	4	1.82	6 to 12 feet	2, 25
D0	6	1.98	8 to 12 feet	1.75
Corn or cotton planter:		0.00	36 to 48 inches between rows	3.00
1-row Do. 2-row Covering seed potatoes. Do.	1 2	2. 28 3. 10	dodo	1.50
2-row.	2 2	3.88	1 40	1.50
Covering seed potatoes	1	2.10	24 to 32 inches between rowsdo3 to 12 feet	2 00
Do	2 1	2.62	do	2. 33 3. 00
Marking planting rows	2	1.57 2.10	3 to 12 leetdo	6.00
Potato planter:	-	2.10		
1-man	} 2	2.47	24 to 32 inches between rows	2 33 2,33
z-man	13	2.20	do	2.33
Lime spreader	2 2 3	1. 15 1. 36	6 to 12 feet	4.00 3 00
Fertilizer drill	3	1.46	6 to 12 feet	2.66
Field sprayer	1	1. 15	6 to 12feet	11.00
Do	2 2 1 2	1.30		6 00
Mowing hay	2	1.68	4 to 7 feet	2.50 9 00
Raking hay	1	1.78 1.90	8 to 16 feet	6.00
Tedding how	í	1.69	6 to 8 feet	7 00
Do	2	1, 69 2 06	00 4 to 7 feet. 6 to 12 feet. 8 to 16 feet. 6 to 8 feet. 6 to 10 feet.	4 25
Fertilizer drill. Do. Field sprayer. Do. Mowing hay Raking hay Do. Tedding hay Do. Grain binder. Do. Do. Do. Do.	3	1.79	4 to 7 feet	2.00 2.00
ρ ₀	4 5	2.08 2.18	o to 810et	1.66
DoGrain haadar	4	2.18	6 to 101eet. 4 to 7 feet. 5 to 8 feet. do. 10 to 12 feet. do. 12 to 14 feet. Rows 36 to 48 inches (average yields).	3.00
Grain header	5 1	2.03 2.13	do	2, 25
Do.	6	2, 23	12 to 14 feet	2.33
Do Corn binder	3	2.09	Rows 36 to 48 inches (average yields).	1.50
Cultivating	1	4.34 6.89		
Do	2	1.04		
Knapsack sprayer Wheelbarrow seed sower Hand corn planter		1.45	10 to 16 feet	
Hand corn planter		1.34	36 to 48 inches between rows	
•	1			

PLOWING WITH HORSES.

Table 567.—Acres plowed with horses per 10-hour day.

Location and item.	Crew.1	Rate.	Location and item	Crew.1	Rate.
Central Illinois:			Minnesota—Marshall		A cres.
Spring-		Acres.	Spring wheat	1-4	3.4
24-inch gang	1-4	4.94	Corn	13	3. 3
Do	1-5	4.64	Corn fodder	1-3	3.3
24-inch gang Do 28-inch gang	1-4	4.84	Corn roader Oats Barley. Fall rye Old sod— Flax	1-4	3.4
Do	1-5	5.06	Barley	13	3.1
Do	1—6	5.31	Fall 1ye	1-4	3.3
Fall—			Old sod—		_
24-inch gang 28-inch gang	1-5	4.63	Flax Minnesota—Halstead Spring wheat Corn Corn fodder Corn silage Oats	14	3.4
28-inch gang	1-4	4 33	Minnesota—Haistead	7 -	
Do	15	4.80 4.96	Spring wheat	1—5 1—5	4.0
	10	4.90	Corn foddor	1-3	4.0 3.8
Spring— 14-inch sulky	13	2.91	Corn silege	1-5	3.
16-inch sulky	1-3	2,97	Oats	1-4	3 4. (
Do	1-4	3.29	Barley	1-4	3.
Fall—	^ ^	0.20	Fall rve	1-5	3.
14 mah culleu	13	2.61	Flax	1-5	4
Do	14	2.89	Minnesota-North River Valley		
16-inch sulky	1-3	2.72	Potatoes	15	4.0
Do	1-4	3.04	Corn stage. Oats. Barley. Fall rye Falx. Minnesota—North River Valley Potatioes. Montana—Gallatin Valley: Wheat		
Do	15	3.3	Wheat Western New York:	15	3.9
Pennsylvania—Chester County			Western New York:		
14-inch walking	1-2	1.80	Sod-		
ATMICH Sams.	1-4	3.60	10-inch walking	1-2	1.
Corn Belt:		7.0	12-inch walking	1-2	1.
8-inch walking	1-2	1.6	12-inch walking 12-inch walking 14-inch walking 10-inch walking 12-inch walking 14-inch walking	1-2 1-3	î.
10-inch walking 11-inch walking 12-inch walking	1-2	1.7 1.7	10-inch walking	1-3	1.
10 mob wollring	1-2	1.8	14 inch walking	1-3	1.
14 meh wellene	1-2	1.9	16-inch walking	1 2	1. 1.
14-inch walking 16-inch walking 8-inch walking 10-inch walking	1-2	2.0	Stubble—	10	1.
8-inch walking	13	1.8	10-inch wellzing	1_2	1.
10 inch walking	1-3	2.0	10-inch walking 12-inch walking	1-2	1.
Il-inch walking	î3	$\tilde{2}.\tilde{1}$	14-inch walking	1-2	i.
12-inch walking	î_3	$\tilde{2}.\tilde{2}$	10-inch walking	1-8	î.
14-inch walking	î3	2.4	12-inch walking	1-3	1.
16-inch walking	1—3	$\frac{2.4}{2.6}$	14-inch walking 10-inch walking 10-inch walking 12-inch walking 14-inch walking	îă	2.
12-inch sulky	1-2	1.7	16-inch walking.	1—3	2.
14-inch sulky	1-2	10			
16-inch sulky	1-2	1.9	12-inch sulky 14-inch sulky 16-inch sulky	1-3	2.
12-inch sulky	13	2.3	14-inch sulky	13	2.
14-inch sulky	13	2.5	16-inch sulky	13	2.
10-meh walking 11-inch walking 12-inch walking 14-inch walking 16-inch walking 12-meh sulky 14-inch sulky 16-inch sulky 12-inch sulky 16-inch sulky 16-inch sulky 16-inch sulky	18	1.9 2.3 2.5 2.7			_
12-inch sulky	1-4		12-inch sulky 14-inch sulky 16-inch sulky	1-3	2.
14-inch sulky	1-4	2.6	14-inch sulky	1-3	2.
16-inch sulky	1-4	2.6 2.9 4.1	10-men sulky	13	2.
24-inch gang	1-4	4.1	II NOTED DAKOTA:		
12-inch sulky 14-inch sulky 16-inch sulky 24-inch gang 28-inch gang	1-5	4.4 4.6	28-inch gang	14	5. 5.
92 inch gang	1-5	4.9	Do	1-6	5.
24 inch gang	1-6	4.9	Georgia:	1-0	٠.
24-inch gang 28-inch gang 28-inch gang 24-inch gang 28-inch gang	1-6	5.4	Laurens County (cotton)	1-1.8	1.
		0	Laurens County (cotton) Greene County (cotton) Sumter County (cotton)	1-1.7	ĩ.
Idaho:			Sumter County (cotton)	1-1.9	2,
In orchard—			H AIRDRINA:		
12-inch	1-2	1.38	Tallapoosa County (cotton) Marshall County (cotton) Dale County (cotton)	1-1.2	1.
Western Colorado:	1-2		Marshall County (cotton)	1—1.2 1—1.7	1.
In orchard	12	1.44	Dale County (cotton)	1-1.7	1.
Louisiana: Sod, flat breaking—	l		II Sonta Carolina:		
10-inch walking	1_9	1.65	Anderson County (cotton) Barnwell County (cotton)	1-1.8	1.
12-inch walking	1-2	2.11	Barnwell County (cotton)	1-1.4	1.
	1-2	2.11	Texas:		_
Minnesota:	1		Ellis County (cotton)	1-3.3	2.
Fall plowed-		2 -2	Rusk County (cotton)	1-1.9	2.
spring wheat	1-3	2.70	Utah:		
opring prowed—	1 1 0	0.74	Irrigated—	٦.	2.
Corn foddor	1-3	2.74	Potato and sugar beets	1-2	2.
mmnesota: Fall plowed— Spring wheat. Spring plowed— Corn. Corn fodder. Corn silage. Oats. Barley.	1-3	2.71	West Virginia:	7.0	1.
Corn snage	1-3	2.70 2.75 2.75 2.75	Wheat	1-2 1-2	1
Rarlan	1-3	2.75	Woodyngton Woodship	1-2	1
Barley Fall plowed—	13	2.75	Orghord wenatchee:		
Hamn	1 0	9.00	Corn	1_0	1.
HempOld sod—	1-3	3.20	12-inch	12	1.
			AA GOTTIIR POIL T SWITTING.		1.
Flax	1-3	2.79	Orchard	1-2	

¹ First figure refers to number of men and second figure to number of horses in crew

PLOWING WITH TRACTORS.

Table 568.—Acres plowed with tractors per 10-hour day.

Location, size, and type.	Size of plow.	Depth.	Rate.	Location, size, and type.	Size of plow.	Depth	Rate.
South:	Inches.	Inches.	Acres.	Northwestern United			
2-bottom disk 2-bottom moldboard		1 8.75	4.7	States—Continued.	Inches.	Inches.	
2-bottom moldboard			5.3	30 horsepower, plow	113.0		18.2
3-bottom disk			6.5	20 horsepower, break			
3-bottom moldboard			7.3	20 horsepower, plow	84.0		13.8
Corn Belt:	l		1 1	General United States:		Į	
2-plow (spring)			6.6	Stubble, 6-7 inches		ł	
2-plow (fall). 3-plow (spring). 3-plow (fall).			6.5	deep-	Feet.		1
3-plow (spring)			8.6	15 horsepower	7.4		14.0
3-plow (fall)			8.6	20 horsepower	7.9		16.7
unnois:	i	t .	1 1	22 horsepower			
2-plow			6.5	25 horsepower	11.3		20 €
3-plow 2-plow (spring) 2-plow (fall)			8.7	30 horsepower			22.
2-plow (spring)			7.0	32 horsepower			
2-plow (fall)			6.4	40 horsepower			
3-plow (spring)			1 8.71	45 horsepower			20.0
3-plow (fall)			8.1	60 horsepower	12.3		24. 8
North Dakota:	ł	1		Sod, depth 4.2-4.7		i	1
15 horsepower, gasoline.	77.1	5.9	14.0	inches—			[
15 horsenower, kerosene	80.6	6.2	15.0	15 horsepower	5 2		9 1
30 horsepower, gas	110.8	6.1	21 0	20 horsepower	6.1		11.9
30 horsepower, gas 30 horsepower, kerosene	123.3	6.3	23.0	22 horsepower	7.9		13 9
Illinois.	1			25 horsepower	9.8		16 2
2-plow 3-plow 4-plow			6.5	30 horsepower	9.7		17.9
3-plow			8.8	32 horsepower	13.0		23.9
4-nlow			10.0	40 horsepower	13.8	l	24.9
				45 horsepower	8.4	l	15. 2
Hillinois — Corn Bett: 2-plow			6.7	60 horsepower	9.3		15.
3-plow			82	Central Illinois:	Inches.	l	İ
4-plow			10.4	2-plow (spring)	28.0	\	6.9
5-nlow			12.6	3-plow (spring)	42.0		8.
6-nlow			15 3	2-plow (fall)	28.0		
8-plow			20.2	3-plow (fall)	42.0		7.
10-plow			23.0	Minnesota	1		1
North Dakota:				Clay County. Anoka County, 3-plow			11.
2-nlow			6.3	Anoka County, 3-plow.			6.
2-plow 3-plow			8.5	Wicconcin	5	1	1
4-plow			10.9	Barron County, 3-plow-			9.6
_				Waupaca County, 2- plow	į.	į.	1
New York:	l	l		plow			7. 0
2-plow			4.5	Michigan: 2-plow	İ	1	1
3-plow			6.3	2-plow	l		6.0
Northwestern United		1	1	New York-Monroe		1	
States:	1	1	1	Comtre	ł		1
22 horsepower, break	78.0		15.1	2-nlow	l		3.0
22 horsepower, plow	122.0		22.6	Maine-Aroostock County:	1		1
30 horsepower, break				Maine—Aroostook County: 2-plow	1		5. 5
oo norsepower, break	10.0		10.2	-	1	i	1

¹ Average depth for region.

HARROWING WITH HORSES.

Table 569.—Acres harrowed with horses in 10-hour day.

(Spike and spring tooth.)

Location and item.	Crew.1	Rate.	Location and item.	Crew.1	Rate
Central Illinois:		Acres	Western New York:		Acres.
15-foot, spike tooth 16-foot, spike tooth 18-foot, spike tooth 20-foot, spike tooth	1-4	32.5	5-foot, spike tooth	12	11.6
16-foot, spike tooth	14	38.7	6-foot, spike tooth	12	11.5
18-foot, spike tooth	1-4	36.6	6-foot, spike tooth 7-foot, spike tooth 8-foot, spike tooth	12	12.5
20-foot.spike tooth	14	40.0	8-foot, spike tooth	12	13 5
22-100t, Spike tooth	1-4	41.2	9-foot, spike tooth 10-foot, spike tooth	12	14 3
General United States:			10-foot, spike tooth	1-2	16.7
Freshly plowed—			12-foot, spike tooth 5-foot, spike tooth	1-2	15 4
8-foot, spike tooth	1-2	11.2	5-foot, spike tooth	13	11 4
10-foot, spike tooth	13	15 9	6-foot, spike tooth	13	12 4
10-foot, spike tooth 16-foot, spike tooth	1-4	29.3	7-100t SD1ke tooth	1-3	13 7
Wall nackad			8-foot, spike tooth	13	14 6
8-foot, spike tooth	1-2	13.4	8-foot, spike tooth 9-foot, spike tooth	13	17.0
10-foot, spike tooth	1-3	19 7	10-foot, spike tooth 12-foot, spike tooth	13	18.0
8-foot, spike tooth 10-foot, spike tooth 16-foot, spike tooth	14	36.4	12-foot, spike tooth	1-3	19 8
h'rachim niowari	i		6-foot, spring tooth	1-2	9 3
6-foot, spring tooth Do 8-foot, spring tooth	1-2	7.7	7-foot, spring tooth	1-2	9 7
Do	1-3	8.5	8-foot, spring tooth	1-2	10 1
8-foot, spring tooth	14	13.6	6-foot, spring tooth	1-3	10 6
			7-foot, spring tooth 8-foot, spring tooth	13	11.3
6-foot, spring tooth	1-2	8.9	8-foot, spring tooth	13	13 8
6-foot, spring tooth Do 8-foot, spring tooth	1-3	10.6	Do	1-4	15 3
8-foot, spring tooth	14	15.3	9-100t, spring tooth	1-4	18.7
Idaho			Washington—Wenatchee district:		ĺ
In orchard—	7 0		Orenards—		
7-foot, spring tooth 9-foot, spike tooth	1-2	5. 52 10. 42	6-foot, spring tooth	1-2	5 90
Louisiana:	1-2	10.42	7-foot, spike tooth	12	9.60
Louisiana.	1 0	12.0	Washington—Yakima district		ĺ
8-foot Log, 7½-foot	1 2	12.5	Coming tooth	1 0	7 30
Michigan	i	12.0	Spring tooth	1 2	9, 26
Spring tooth	1_2	9.8	Western Colorado:	1-2	9. 20
Minnesota:	1-2	3.0	In orchards—		
Spike tooth—			Spring tooth	1_9	6, 67
Rice County (spring	l		Spring toothSpike tooth	1-2	8 47
wheat)	1-2	20.8	Wisconsin:	1 2	1 5.
Lyon County (spring		20.0	Spike tooth	1_2	15 5
wheat)	1-3.7	28, 6	Spike tooth	1_3	16 0
wheat) Norman County (spring	1	1 -2.5	De	1-4	21 0
wheat)	1-3.8	23, 8		* *	
Rice County, flax		14.3			
Lvon County, flax	1-3.4	20. 8			
Norman County, flax	1-3 5	13. 9	11	- 1	

¹ First figure refers to number of men and second figure to number of horses in crew.

DISKING WITH HORSES.

Table 570.—Acres disked with horses per 10-hour day.

Location and item	Crew 1	Rate.	Location and item.	Crew.1	Rate
Central Illinois:			Mınnesota:		Acres.
Well-packed land-		Acres.	Rice County (wheat)	1-3	18.5
7-foot single disk	1-4	15.1	Lyon County (wheat)	1-4	15.9
8-foot single disk		17.1	Norman County (wheat)	1-4	18.5
9-foot single disk	1-4	18.6	Rice County (flax)	1-3.4	7.1
10-foot single disk	16	23.1	Lyon County (flax)	1-3.7	7.7
Freshly plowed:			Norman County (flax)	1-1	16.4
7-foot single disk		14.1	Missouri:		
8-foot single disk	1-4	15.2	Saline County	1-4	10. (
9-foot single disk		16.6	Jasper County	1-1	8.6
10-foot single disk	1-6	22.3	St. Charles	1-3.6	7.4
Colorado:			Montana:		
Rocky Ford District	1-3.6	9.1	Gallatin district (wheat)		18.2
Fort Morgan District	1-3.8	11.4	Judith district (wheat)	1-4.5	20.4
Greely District	1-3.8	7.4	Billings district, 12 to 16 disks	1-4	10.
In orchards	1-2	5.3	Nebraska:		
Corn Belt:			Phelps County (wheat)	1-4.5	12.
Well packed soil—			Saline County (wheat)	1-4	10
6-foot		7.8	Keith County (wheat)	1-4.2	9
Do	13	9.4	Western New York:	1	
8-foot	14	15.9	Well packed land—		_
Do	15	13.9	5-foot	1-2	8.
Do	1-6	18.6	6-foot	1-2	9.
Freshly plowed—			7-foot 8-foot	1-2	10.
6-foot		7.5	8-1001	1-2	10.
Do		7.8	5-100t	1-3	9.
8-foot		13.3	0-100t	1-3	10.
Do		11.7	5-foot. 6-foot. 7-foot. 8-foot.	1-3	10.
Do	16	15.9	8-100b	1-3	10
Dakotas:			6-foot		12.
Grand Forks County		13.0	7-foot 8-foot	1-4	13.
Morton County		9.3	Freshly plowed—	1-4	10.
Spink County		13.7	r resuly plowed—	1 2	. 7
Great Plains	14	8.0	5-foot 6-foot	1 2	7.
Idaho: Idaho Falls and Blackfoot			7-foot	1-2	3.
	1 2 7	0.0	8-foot	1-2	8.
district		6.9	5-foot	1 2	8.
			6-foot		8.
Twin Falls district	1-3	6.2 9.3	7-foot	1_3	8.
Provo district	1-3.25 1-3.93		8-foot	1-3	9.
Portette district an orghords	1-3.93	14.1	6-foot	1-4	7.
Payette district, in orchards,	1-2	5.6	7-foot		10.
7-foot riding Kansas:	1-2	3.0	8-foot	1-4	11.
	1 50	9.3	Ohio	1	
Ford County	1-5.2	11.0	6-foot	1-3.1	9.
Pawnee County	1-4.8	10.0	Pennsylvania—Chester County:	1	1
	1-4.4	10.0	8-foot single	1-2	9.
Louisiana: 6 to 8 foot	1-2	5.4	8-foot double		9,
Do	1-4	11.6	Utah	1-4	8.
Maine:	1	11.0	Washington.	•	
Aroostook County	1-2	7.6	In orchards, 5-foot	1-2	4.
	1-2	1.0	THE OTOMAN COST OF THE PERSON	(1-2	12.
Michigan:	1-2.5	8,2	Wisconsin	11-3	13.
Caro County, 6-foot	1-2.6	8.6		1,	1
Alma County, 6 foot		7.4	1		
Grand Rapids County, 6 foot.	1-3.5	6.3			1
Grand Traverse County	1-3	7.6			
Montcalm County	70	1.0	1	1	1

¹ First figure refers to number of men and second figure to number of horses in crew.

HAULING AND DISTRIBUTING MANURE AND FERTILIZERS.

Table 571.—Normal day's work per 10-hour day.

MANURE AND FERTILIZER OPERATIONS.

Location.	Item.	Distance.	Crew 1	Rate
Central Illinois	Haul with spreader on stubble Haul with spreader on sod Haul with spreader on stubble Haul with spreader do do	75 80 80 61 70 75	1—2.6 1—2.6 1—2.9 1—2.9 1—2 1—3	Loads. 14. 5 13. 3 13. 7 12. 2 15. 1 15. 3 13. 2
Clay County Anoka County Wisconsin:	do	•••••	1-4 2-4	18.8 20 6
Barron	do		1-2	21. 5 16. 9
Grand Traverse County	do		1—2 2—3	20. 2 20. 8
Steuben County	dododo		2—3 2—2	12 5 19. 1 12. 8 13. 3
Blackfoot Falls	Haulın piles with wagondo.	99 77	1.6-2.7 1.4-2.5 1-2 1-2	15 1 12.8 6.0 9.6
Do	do Size of piles spread by hand 3 bushels.	69 67	1—2 1—2 1—0	13. 4 21. 7
Central Illinois	5.7 bushels 10 2 bushels Haul and spread from wagon.	• • • • • • • • •	1—0 1—0 1—2	21. 0 26. 0 8. 8

OTHER FERTILIZER.

Location	Item.	Operation.	Size of load.	Crew.1	Rate
General, United States.	Lime	Spread from wagon	Bushels. 22 34 49 64	1-2 1-2 1-2 1-2 1-2	Loads. 9.74 8.13 6.88 8.23
Do	do	Spread from piles.	Size of pile (bu.). 1 3.5 25.6	1-2 1-0 1-0 1-0	4. 98 Bushels. 239 503 967
Do Do	do Commercial fertilizer	Lime spreader Fertilizer drill	Range of width (ft.). 8 6 8	1-2 1-2 1-3	Acres. 10.8 8.6 10.6
Louisiana	do	Distributor	Width of row (ft). 3 3 4 4 4 5	1-1 1-1 1-1 1-1 1-1	5.4 6.6 7.3 7.3 8.3
	do	By hand	$\begin{smallmatrix} 6\\3\frac{1}{4}\\4\end{smallmatrix}$	1-1 1-0 1-0	9.1 5.7 5 9
Monroe County, N. Y Steuben County, N. Y	Fertilizerdo	Distributordo	4½	1-0 1-2 1-2	6 2 9 9 7. 2

¹ First figure refers to number of men and second figure to number of horses in crew.

HAYING OPERATIONS.

Table 572.—Normal day's work per 10-hour day for various operations in haying. CUTTING.

Location and item.	Crew 1	Rate	Location and item.	Crew 1	Rate.
General United States: 5-foot. New York—Steuben County 5 1-foot. Pennsylvania—Wishington County. 5 9-foot. Iowa—Wayne County: 6-foot. Nebraska—Hall County. 5 5-foot. Kansas—Jowell County: 5 3-foot. Oklahoma—Craig County: 5.5-foot. Alabama. Montgomery County— 5.4-foot.	1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	Acres. 9 3 10 7 10 8 12 1 11 1 11 2 11.9 10 0 8 9	Alabama—Continued. Perry County— 6-foot. Demopolis section— 6.5-foot. Mississippi—West Point section: 6-foot. Louisiana: 4.5-foot. Central Illinois. 5-foot. 6-foot. Western New York. 4.5-foot. 5-foot. 6-foot. Wisconsin: 5-foot.	1-2 1-2 1-2 1-1 1-2 1-2 1-2 1-2 1-2 1-2	Acres 9 6 10 8 10 8 10 8 10 8 10 6 12 0 8 5 9 2 10 1
		RAK	ING.	,	
General United States: 8-foot rake. 10-foot rake Central Illimois 10-foot rake. 11-foot rake. 12-foot rake. 12-foot rake. 10-foot rake. Side delivery. Louisiana: 10-foot rake. Western New York: 10-foot rake. New York—Steuben County: 10.8-3-foot sulky rake. Pennsylvania—W a s h in g t on County: 10-65-foot sulky rake.	1—1 1—2 1—2 1—2 1—2 1—2 1—2 1—1 1—1 1—2 1—2	14 2 21 2 21 2 21 0 22 2 23 6 20 6 12 65 15 3 17 9 22 9	Iowa—Wayne County: 10.52-foot sulky rake. Nebraska—Hall County 10.75-foot sulky rake. Kansas—Jewell County 10.86-foot sulky rake Oklahoma—Crag County. 11.03-foot sulky rake. Georgia—Augusta section. 10.73-foot sulky rake. Alabama Montgomery County— 9 67-foot sulky rake. Perry County— 10.80-foot sulky rake. Demopolis section— 11 65-foot sulky rake. Mississippi—West Point section: 11.94-foot sulky rake.	1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	23 6 23 8 25 3 22 0 20 1 17.6 19 9 22 0 27 2
Iowa—Wayne County 3 Nebraska—Hall County 3 Kansas—Jewell County 3 Georgin —Augusta section 4. Alabama. Montgomery County 5 Perry County 9 Domopolis section West Point section	1—2 1—2 1—2 1—2 1—2 1—2 1—2 1—2 1—2	9 1 11 1 12 7 10 9 11 8 23. 7 19. 3 9. 8	New York—Western. Bunching Do Cocking by hand General United States: Cocking by hand.	1—1 1—2 1—0 1—0	13 3 16 6 6 4 6.9
Ţ		TEDD	PING.	 -	
General United States: 6-foot tedder. 10-foot tedder. Central Illinois: 8-foot tedder. 10-foot tedder.	1—1 1—2 1—2 1—2	11.8 19 2 17 1 21.0	Western New York New York—Steuben County 8.76-foot tedder Pennsylvania—W as hington County: 6 58-foot tedder	1—2 1—2 1—2	14 6 16 2 12 8

¹ First figure refers to number of men and second figure to number of horses in crew.
2 Also known as "sweep rake," "go-devil," "buck rake," "bull rake."
3 Hauled from windrow to stacker in field.
4 Hauled from cock to barn or stack in field.

HAYING OPERATIONS-Continued.

Table 572.—Normal day's work per 10-hour day for various operations in haying—Continued.

STACKING HAY.

Location and item.	Crew.1	Rate.	Location and item.	Crew.1	Rate.
General United States: Stacking in field with sweep rakes	2-2 2-4 3-2 3-4 3-6 4-2 4-4 4-6 5-4 5-8	Acres. 10 0 14 18 10 07 15 96 15 60 11 67 15.69 19 33 13 20 20 31	General United States—Contd. In field, by hand—Contd. Iowa::	4—2 4—4 4—6 5—2 5—4 5—6 6—4 6—6 6—8	A cres. 8 56 9 81 14 49 9 28 9 66 12 87 7 73 12 58 10 31
In field, by hand	5—8 6—6 6—8 2—2 2—4 3—2 3—4	24 23 25 42 20 96 5.00 5 50 5 55 8 28	Wayne County— Over-shot stacker, yield, 1.1 tons. Hall County— Over-shot stacker, yield, 1.0 ton.	2—5 2—5	6 0 8 3

LOADING, HAULING, AND UNLOADING.

Lousiana: Oat hay to bain— ½ to 1½ tons per acre. Meadow hay to barn— 1 ton and less. 1½ to 2 tons	2—2 2—2 2—2	A cres 7.45 4.07 3.03	General, United States—Contd. Hauling with loader—Con. Unloading with sling or fork	2—2 2—4 3—2 3—4	A cres. 8. 04 6. 97 8. 23 9. 42
General, United States: Hauling hay, load by hand, cocks to barn, unload by hand	2-2 2-4 3-2	4.6 5.56 4.77	Western New York: Loading, hauling, and un- loading to barn, unload by hand—	4—4 4—6	10. 66 10. 88
	3—2 3—4 4—1 4—6 5—6 6—4 6—6 6—8	6.44 7.52 9.79 7.70 10.19 8 43 9.56 5.25	1 wagon Do. 2 wagons. Do. Western New York: Loaded by hand— Unload with sling or fork—	2—2 3—2 3—4 4—4 5—4	5.0 5.4 5.7 7.8 8.9
General, United States: Loading, hauling, and un- loading, cocks to barn, un- load with hayfork or sing.	2-4 3-2 3-4 4-4	6, 44 8, 33 6, 76 8, 56 10, 64	1 wagon Do	2—2 3—2 3—4 4—4 5—4	6.7 7.6 9.5 10.0 11.9 Minutes per load 42.2
	5-4 5-6 6-4 6-6 6-8	14. 95 11. 23 12. 94 11. 04 12. 10 12. 17	Loading only by hand Do Load with loader— Swath. Windrow. Central Illinois: Unloading only, unloading	2—0 3—2 3—2	31. 4 21. 9 22 0
General, United States: Hauling with loader— Unloading by hand	2—2 2—4 3—2 3—4 4—4 4—6	5. 55 6. 82 6 15 7. 40 8. 20 8 04	into mow by hand Central Illinois: Unloading only; unload with hayfork into mow	(2) (3) (4) (6) (6) (7)	43. 4 41. 0 33. 2 Minutes to unload 20. 2 18. 2 16. 4

¹ First figure refers to number of men and second figure to number of horses in crew.
21 man in wagon, 1 in mow.
11 man in wagon, 2 men in mow.
22 men in wagon, 2 in mow.
12 men in wagon, 2 in mow.
13 man in mow, 1 on load, 1 driving team.

HAYING OPERATIONS-Continued.

Table 572.—Normal day's work per 10-hour day for various operations in haying-Continued.

BALING.

Location and item.	Crew.1	Rate	Location and item	Crew.1	Rate
General, United States: From stack or barn with sweep Oklahoma— Craig County In South 3. General, United States: Engine (horsepower)— 5.44 6.28 8.20.	2-1 3-1 4-1 5-1 2-2 3-2 4-2 5-2 6-2 7-2 8-2 23,4-2 4-2 4-3 3-0 4-0 5-0	Tons. 3.56 7.13 9.01 12.38 9.90 8.51 9.50 10.79 15.35 15.35 2.9 1.7	Perry County— Gasoline engine Demopolis section. Gasoline engine	8-0 9-0 10-0 11-0 5. 2-0 6. 33-0 6. 00-0 5. 93-0 5. 57-0	Tons 16. 10 19. 97 20. 09 26. 10 27. 32 30. 94 5 4. 3 6 1. 9 6 2. 0 6 2. 5 6 2. 3

First figure refers to number of men and second figure to number of horses in crew.

SMALL GRAIN OPERATIONS.

Table 573.—Normal day's work per 10-hour day for various operations in small grain production.

SOWING.

			Location and item.	Crew.1	Rate.
Location and item.	Crew.1	Rate	Location and road.		
General United States: -6-foot drill -8-foot drill -101010101010101	1-2 1-3 1-4 1-6 1-2 1-2 1-2 1-2 1-2 1-4 1-2 1-4.8 1-4.5 1-4.5 1-3.5	Acres. 9.1 12.2 14.6 10.9 9.6 10.0 10.4 14.7 11.1 18.2 17.4 15.6	Nebraska: Phelps County— 7, 8 foot drill. Saline County— 7, 8 foot drill. Keith County— 3-6, 7 foot drill. Kansas: Pawnee (tractor) 12, 16 hoe drill. Nebraska: Pholps drill (tractor). Keith drill (tractor). Central Illinos: End gate seeder— 20 2 feet. 25 8 feet. 30.0 feet. 39 0 feet. 39 0 feet. General United States: Knapsack. Wheelbarrow, 14-foot. Louisiana: Broadcast by hand— 1½ bushels per acre.	1 -2 1 -2 1 -2	Acres. 11. 4 11. 9 10. 8 35. 0 17. 8 36. 4 38. 5 43. 3 48. 6 51. 3 58. 2 23. 0 21. 0
8, 10 foot drill	1-3.1	10. 5	2 bushels per acre		14.1

¹ First figure refers to number of men and second figure to number of horses in crew.

¹ First figure telers to number of men and second figure to find the first at the second against the first at the second against the first at the second against section, Ga., 7 records; Montgomery County section, Ala., 8 records, Perry County, Ala., 2 records; Demopolis section, Ala., 4 records.

4 Hay brought from cock to press with push rake.

5 Hay brought from windrow to press with push rakes.

6 Hay brought from cock to press with push rakes.

SMALL GRAIN OPERATIONS-Continued.

Table 573.—Normal day's work per 10-hour day for various operations in small grain production—Continued.

CUTTING.

Location and item.	Crew.1	Rate.	Location and item.	Crew.1	Rate.
General United States: 5-foot binder. 6-foot binder. 7-foot binder. 8-foot binder.	1—3 1—3 1—4 1—4	8. 96 10. 61 14. 75 17. 61	General United States: 10-foot header. 12-foot header. 14-foot header. Kansas:	1 —6 1 —6 1 —6	23. 41 27. 65 27. 55
Central Illinois:	1-3	13. 40	Ford County— 14-foot header	6.9-10.8	22. 4
7-foot binder Do	1-3 1-4	14. 11 15. 32	Pawnee County— 14-foot header	6.6-10.4	19. 2
8-foot binder	1-4	18.04	Louisiana: Hand Binding by hand	1 -0 1 -0	3.24
6-foot binder	1—2 1—2 1—3	7. 74 9. 47	Utah.	1	3.34
6-foot binder. 5-foot binder. 6-foot binder. 7-foot binder.	1—3 1—3	9.78 10.59	Binder	1 -3	10.0
Kansas: Ford County—	13	11.51	Ford County— Binder (tractor)	2.7-0	32.5
Binder Pawnee County—	14.7	15.7	Pawnee County— Binder (tractor) McPherson County—	1.6-0	24.0
Binder McPherson County—	1-4.8	13.7	Binder (tractor)	1.8-0	17.1
Binder	1-4.4	13. 4	Saline County-	1.5-0	20.0
Saline County— Binder	1-5	10.9	Binder (tractor) St. Charles County— Binder (tractor)	2.0-0	15.0
Jesner County-	1-4.1	11.4	Phelps County—		
Binder St. Charles County— Binder	1-3.9	11.2	Binder (tractor) Saline County—	30	20.0
Phelps Ccunty—			Binder (fractor) Kieth County—	2 -0	16.0
Binder Saline County—	1-4.8	13.8	Binder (fractor)	2.9-0	35. 1
Binder Keith County—	1-4.4	11.3			
Binder	14.0	13. 1			
		SHOC	KING.		
General United States:			Louisiana	1 —0	7.06
1-20 bushels per acre 21-40	1-0 1-0 1-0 1-0	10.18 8.81	Kansas: Ford County	2 —2 2 —0	37.4
41-60 61 and over	1-0	8. 54 7. 43	Pawnee County McPherson County	2 —0 1.6—0	3 6. 5 2 9. 4
Utah Central Illinois	1-0 2-0	5.6 288	Missouri: Saline County	2.4-0	2 4. 9
	3-0 4-0	2 6 8 2 5. 9	St. Charles County	2. 5—0 2. 3—0	² 4. 8 ² 5. 0
Western New York (yield per acre):			Nebraska: Phelps Saline County	i	2 9. 9 2 6. 2
20 bushels per acre 25 dodo.	1-0 1-0	7. 8 7. 7 7. 5	Saline County Keith County	1.6—0 1.6—0 2.7—0	² 6. 2 ² 8. 6
30do 35do	10 10	7. 5 7. 4	•		
		STACI	KING		
Manager Transport 2 Mars 4					
General United States: In field	2-2 2-4 3-2	8. 09 10. 74 8 40	General United States: At farmstead	2-2 2-4 3-2	6.75 7.23 7.29
	3-4 4-4	14. 48 13. 84		3-4 4-4	11. 45 11. 19
	4—6 5—4	23. 46 14. 18		4-6 5-4	19.75 12.34
	56 64	19 17 14.13		5-6 6-4	15. 34 12 23 18. 37
	66	18.16		6-6	18.37

SMALL GRAIN OPERATIONS—Continued.

Table 573.—Normal day's work per 10-hour day for various operations in small grain production—Continued.

THRESHING.

Location and item.	Crew 1	Rate	Location and item	Crew 1	Rate
General United States: From stack or barn (yield per acre)— Wheat, 22 Oats, 40 Flax, 11 Alfalfa clover, 10 Timothy, 7 Western New York: From stack or barn (yield per acre)— Wheat— 20 bushels per acre. 25do. 30do. Oats— 35do. 45do. 55do.	12-0 12-0 10-0 4-0 13-0	Bushels. 1,094 1,877 719 52 273 746 871 931 - 1,116 1,292 1,365	Umted States. From shock (yield per acre)— Wheat, 23. Oats, 40. Flax, 13. Alfalfa clover, 3.5. Timothy, 6 5. Western New York: From shock (yield per acre)— Wheat— 0-20. 21-30. 31 and over. Central Illinois (average per load 85 3 bushels) Unloading only, by hand— Oats Portable elevator— Oats	10—0 9—0 12—0 12—0	Bushels 1, 405 2, 435 572 577 208 572 728 4 926. 5 Parties per load. 25 6 7 9

¹ First figure gives number of men and second number of horses in crew 28 or 9 men, 2 or 4 horses 8 or 9 men, 4 or 6 horses.

CORN OPERATIONS.

Table 574 — Normal day's work, for 10-hour day, for various operations in corn production. CUTTING STALKS

Location and Hem.	Width of row.	Num- ber of fur- lows per low.		Rate.	Location and item.	Width of row.	Num- ber of fur- rows per row.	Crew.1	Rate.		
Louisiana. By hand	Feet.		10	A cres. 3. 6	Louisiana—Contd. By stalk cutter	Feet		1—2	A cres. 7.7		
BEDDING.											
Louisiana: Middle buster Turn plow	33 4 3 4 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4	11122222444466	1-2 1-2 1-2 1-1 1-1 1-1 1-2 1-2 1-1 1-1	5.7 7.4 2.8 3.5 3.7 4.0 1.6 1.9 1.2	Louisiana—Contd. Rebedding Breaking middles— middle buster Shovel cultivator	3 3 4 4 4 5 4 3 5 4 3 5 4 4 5 4 4 5 5 4	2 2 2 2 2 4 4 1 1 1 1	1-1 1-1 1-1 1-1 1-1 1-1 1-2 1-2 1-1 1-1	2.9 3.4 3.9 4.1 1.7 1.9 7.0 7.7 6.1 7.5		
	LAY OFF ROWS										
Louisiana: Shovel cultivator	2½ 3 31		1—1 1—1	4.9 6.0	Louisiana—Contd. Shovel cultivator	4 4 <u>1</u> 2		1—1 1—1	7. 5 7. 8		

⁴ 9 or 10 men, 6 horses. ⁶ 10 or 11 men, 4 or 6 horses.

CORN OPERATIONS-Continued.

Table 574.—Normal day's work, for 10-hour day, for various operations in corn production—Continued.

HARROWING BEDS BEFORE PLANTING.

•	HA	RROV	VING 1	BEDS I	BEFORE PLANTING.				
Location and item.	Width of row.	Num- ber of fur- rows per row.	Crew.	Rate.	Location and item.	Width of row.	Num- ber of fur- rows per row.		Rate.
Louisiana: Spike tooth	Feet. 4 4 8		1—1 1—2 1—2	Acres. 7.9 8.1 13.3	Louisiana—Contid. Log A-harrow	Feet. 6 6 3 2 3 2 3 2		1—1 1—2 1—1 1—1	Acres. 13 1 13.5 7.0 7.0
				PLAN	TING.				
General United States: One row Western New York: One row General United States: Two row Western New York: Two row Central Illinois: Two row Wisconsin. Two row	30334456 32 3 33 333333		1—1 1—2 1—1 1—1 1—1 1—1 1—1 1—2 1—2	7. 1 11. 3 6. 7. 4 8. 1 9. 7 10. 3 4. 8 5. 4 14. 1 9. 4 11. 1 19. 3 19. 7 9. 9	Western New York: Grain drill. General United States: By hand. Louisiana: By hand. Wisconsin: By hand. Western New York: Hand planter. Louisiana: Covering after planting—shovel cultivator or turn plow.	4 ² 4½ 3½ 3 3 3½	1 1 1	1-2 1-0 1-0 1-0 1-0 1-0 1-0 1-0	11. 7 12. 0 4. 6 6. 8 7 4 7. 7 5. 7 3. 0 3. 5
			(CULTIV	ATING.				
General United States Louisiana: Barring off (turn plow)	32 41 41 31 31 31 31 31 31 31 31 31 31 31 31 31	2222	1—2 1—2 1—3 1—4 1—3 1—4 1—1 1—1	7 8 7.7 13.8 14.0 13.3 14.9 4.3 6.4 3.4 4.1	Louisiana—Contd. Without barring off Cultivate Middles. Thinning Hoeing	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1 1 2 2 2 2 2 1 1 1 2	1—1 1—2 1—1 1—1 1—1 1—1 1—1 1—1 1—1 1—2 1—0 1—0 1—0	7.92684179063884477.838.8442.1614

¹ First figure refers to number of men and second figure to number of horses in crew.

CORN OPERATIONS—Continued.

Table 574.—Normal day's work, for 10-hour day, for various operations in corn production—Continued.

CUTTING

Location and item.	Yield per acre.	Crew	Rate.	Location and item.	Yield per acre.	C1ew1	Rate.
General United States: Binder	Bushels. 1 to 40 41 to 60 61 and over 1 to 40 41 to 60 60 and over 1 to 40 41 to 60 61 and over	1-2 1-3 1-3 1-3 1-4	Acres 7.5 6.5 6.7 7.7 7.7 2.8 8.2 8.3 7.3	Central Illinois Binder Westein New York Binder General United States: Platform cutter		1—1 1—2 1—3	5.4 5 8 5 8 6 0 5 9
	SHOCK	ING A	ND C	UTTING BY HAND			
General United States: After binder Western New York After binder Central Illinois After binder	75 100	1—0 1—0 1—0 1—0 1—0	4.9 3.3 3.6 3.4 2.2 2.2 3.6 2.2 2.2	General United States Cut and shock by hand Central Illinois Cut and shock by hand. Western New York. Cut by hand.		1-0 1-0 1-0 1-0 1-0 1-0	1.7 1.6 1.5 1.4 1.3 1.2 1.1
			HUSI	KING.			
General United States From shock by hand	1 to 40	1-0 1-0 1-0 1-0 1-0 1-2	Bush. 44.5 47.9 56.9 37.0 32.8 33.2 36.7 83.8 87.7 93.4 360.0 376.0	General United States: Husking, standing stalks by hand. Louisiana: Pull and throw in piles. Haul from piles Pull and haul	1 to 40	1-2 1-0 1-0 1-2 2-2 3-2 2-2	Bush. 52. 5 71. 0 72. 8 3. 5 2. 5 4. 8 7. 5 9. 0 5. 7 6. 6

¹ First figure refers to number of men and second figure to number of horses in crew. ² Per man.

CORN OPERATIONS-Continued.

Table 575.—Labor requirements: Planting and cultivating corn by size of field on heavy loam soil, Illinois.

[Based on daily work reports.]

PLANTING: CHECK ROW PLANTER, 2-ROW. CREW, 1 MAN, 2 HORSES

Num-	Size group of fields.	Total	Average size of	Hours per acre			
ber of cases.	Size group of neites.	acreage.	fields.	Average.	Highest	Lowest.	
10 28 16 20 8	10 acres or less 11 to 20 acres 21 to 30 acres 31 to 40 acres 41 acres and upward	54. 50 460. 97 388 01 761 08 507. 26	5. 45 16 46 24 25 38. 05 63. 53	1. 52 . 83 . 79 . 74 . 70	2. 16 1. 44 1. 15 . 93 . 83	0 85 . 59 . 55 . 58 . 56	
82	All acreages	2, 171. 82	26. 49	. 89	2. 16	. 55	

CULTIVATING: 1-ROW RIDING CULTIVATOR.

[First cultivation: Usual dates June 9-27; extreme beginning May 25, extreme ending July 8.]

31 10	10 acres and less. 11 to 20 acres. 21 to 30 acres. 31 to 40 acres. 41 acres and upward.	522. 99 249. 00 663. 10	5. 46 16 87 24 90 39. 01 63 41	2. 53 2. 01 1. 89 1. 87 2. 10	3. 08 2 80 2. 86 2. 98 2. 80	1.50 1.32 1.32 1.30 1.12
76	All acreages	1,996.95	26. 28	2.04	3.08	1.12

CULTIVATING: 1-ROW RIDING CULTIVATOR-Continued.

[Second cultivation: Usual dates June 19-July 6; extreme beginning June 4, extreme ending July 24.]

31 11	10 acres and less 11 to 20 acres 21 to 30 acres 31 to 40 acres 41 acres and upward	522. 90 278 51 735. 16	5. 85 16. 87 25. 32 38. 69 61. 18	2. 31 2. 02 1. 87 1. 87 1. 91	3. 08 2 93 2. 64 3. 24 2. 12	1. 04 1. 37 1. 35 1. 37 1. 67
77	All acreages	2, 017. 48	26. 20	1.98	3. 24	1.04

[Third cultivation: Usual dates July 1-16; extreme beginning June 10, extreme ending July 24.]

26 10	10 acres and less. 11 to 20 acres 21 to 30 acres 31 to 40 acres 41 acres and upward	436. 95 254. 68 697. 27	5, 35 16, 81 25, 47 38, 74 59, 25	2.12 1.67 1.60 1.59 1.80	3. 04 2. 93 2. 54 2. 79 2. 16	1.73 .91 .66 1.14 .48
67	All acreages	1, 727. 94	25. 79	1. 75	3.04	. 66

[Fourth cultivation: Dates June 16, 17; July 2, 3, 7, 8, 9, 12, 13, 16-20, 22, 23, 30; Aug. 1-5]

8	All acreages	189.79	23. 72	1.47	1.90	1. 23

SILAGE OPERATIONS.

Table 576.—Normal rate per 10-hour day at which various operations are performed in corn-silage production.

PLANTING AND CUTTING

	,				
Location and item	Crew 1	Rate.	Location and item	Crew.	Rate
New York: 2-row drill Wisconsin: 2-row drill Lowa 2-row drill New York: 2-row planter Wisconsin: 2-row planter Lowa: 2-row planter Lowa: 2-row planter	1—2 1—2 1—2 1—2 1—2 1—2	Acres. 8.5 11.8 14.5 8.2 8 7 13.3	New York. 1-row drill. Hand planter Cutting binder. Wisconsin Cutting binder. Iowa: Cutting binder. New York Cutting by hand	1—1 1—0 1—3 1—2 1—3	.1 cres 4 2 4. 6.

HAULING.

Location and item.	Man-hours per acre.	Location and item	Man-hours per acre
New York. Loading in field Wisconsin: Loading in field Loading in field Loading in field New York: Hauling from field and unloading Wisconsin Hauling from field—crew 1—2 Iowa: Hauling from field	7. 7 1. 39 . 41 6. 54 6. 86 7 40	New York: Running engine and cutter. Wisconsin Running engine and cutter. Iowa: Running engine and cutter. New York: Packing in silo. Wisconsin Packing in silo. Iowa: Packing in silo.	3. 17 2. 40 2. 45 3. 72 2. 27 3. 01

¹ First figure refers to number of men and second figure to number of horses in crew.

POTATO OPERATIONS.

Table 577.—Normal day's work per 10-hour day for various operations in potato production.

SPROUTING SEED.

SINGOING SEED.										
Location and item.	Crew.1	Rate.	Location and item	Crew.1	Rate.					
Minnesota. Clay County— Turned by machine. Anoka County— Turned by hand	10 10	Bushels 310 50	Wisconsin—Waupaca County New York—Steuben County	1—0 1—0	Bushels. 30 60					
CUTTING SEED.										
Minnesota. Clay County. Anoka County. Wisconsin Barron County. Waupaca County. Michigan: Grand Traverse County. Montcalm County.	1-0 1-0	30 25 20 20 20 25 21	New York. Steuben County. Monroe County. Manne-Aroostook County. General United States: By hand By cutter.		22 18 23. 38 16. 85 34. 01					
		TREATIN	NG SEED.							
Minnesota: Clay County Anoka County Wisconsin—Barron County	1—0 1—0 1—0	168 96 78	Michigan—Montcalm County New York: Steuben County Monroe County	1—0 1—0 1—0	125 98 106					

POTATO OPERATIONS-Continued.

Table 577.—Normal day's work per 10-hour day for various operations in potato production—Continued.

PLANTING

Location and item.	Crew.1	Rate.	Location and item.	Crew 1	Rate.
Utah: Planting with planter Minnesota. Clay County— Planting with planter Anoka County— Planting with planter Wisconsin: Bairon County— Planting with planter Waupaca County— Planting with planter Michigan: Grand Travetse County— Planting with planter Montealm County— Planting with planter New York: Steuben County— Planting with planter Monroe County— Planting with planter Monroe County— Planting with planter Monroe County— Planting with planter Manne—Aroostook County	1-2 1-2 1-2 1-2 1-2 1-2	Acres 2. 2 6. 4 5. 2 4. 7 4. 2 5 5. 1 3. 6 3. 8	General United States: Planting with planter Do. Minnesota—Anoka County: Planting by hand Wisconsin. Barron County— Planting by hand. Waupaca County— Planting by hand. Michigan: Grand Traverse County— Planting by hand. Montcalm County— Planting by hand. New York Steuben County— Planting by hand Monice County— Planting by hand General United States: Planting by hand Cover after planting	1-2 2-2 1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-1	Acres. 5 7: 5 1: 2 1 1.7 1.7 1.5 2 2 2 7 3.0 1 9 4.88

CULTIVATING.

General United States:			Michigan:		
1 row	1-1	4.34	Grand Traverse County—	12	
Barron County—		1	Montcalm County-	12	5, 3
1 row	1-1	4.8	1-row	12	5, 6
Waupaca County—		1	New York:		
1 row	1-1	4.5	Steuben County— 1-row	1-2	5, 5
Michigan:			Monroe County-	1-2	0,0
Grand Traverse County—	1-1	4.4	Maine—Aroostook County:	1-2	4.6
Montcalm County—		2.2	Maine—Aroostook County:		
1-row	1-1	5.3	1-row. General United States:	1-2	6.4
New York:			1-row	12	6,6
Steuben County			Minnesota:		
1-row Monroe County—	11	4.5	Clay County— 2-row	1-3	10.0
I-row	1-1	4,2	Anoka County—	13	10.0
Maine-Aroostook County:			2-row	1-3	11.0
1-row	1-1	4.6	Minnesota-Clay County:		10.0
Uath:			2-row	1-4	10.3
1-row Minnesota:	11	4.4	Clay County-		
Clay County—			Weeder	12	21.2
1-row	1-2	5.8	Anoka County— Weeder	1-2	15.1
Anoka County—		. .	Wisconsin—Waupaca County:	12	10.1
1-row	12	5.9	Weeder	11	9.9
Wisconsin:			New York:		
Barron County:	1-2	5.3	Steuben County— Weeder	11	13. 2
Waupaca County—	1-2	5.0	Monroe County-	11	10.2
1-row	1-2	6.6	Weeder	1-2	14.3

HOEING.

Minnesota: Clay County. Anoka County. Wisconsin Barron County Waupaca County	1-0	4 2.1 1.7 2.3	Michigan: Grand Traverse County Montcalm County New York. Maine—Aroostook County Utah	1-0	4.5 3.1 3.1 2.3 1.1
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POTATO OPERATIONS—Continued.

Table 577.—Normal day's work per 10-hour day for various operations in potato production—Continued.

SPRAYING.

Location and item.	Crew.1	Rate	Togetion and de-	0	
Tooksiva and 160m.	OIGW.	Late	Location and item	Crew.1	Rate.
Minnesota: Clay County— Spraying by machine	1-2	Acres. 27.2	Wisconsin Barron County— Spraying by hand	10	A cres.
Anoka County— Spraying by machine	1-2	16.6	Waupaca County— Spraying by hand	10	5;
Wisconsin. Bairon County— Spraying by machine	1-2	12.4	Michigan Grand Traverse County— Spraying by hand	1-0	3.7
Waupaca County— Spraying by machine	1-1	19. 2	Montcalm County— Spraying by hand	1-0	3.8
Michigan Grand Traverse County—			New York Steuben County—	1 .	
Spraying by machine Montcalm County—	1-2	14.0 14.2	Spraying by hand Monroe County— Spraying by hand	1-0	4.6 3.0
Spraying by machine New York: Steuben County—	1-2	14.2	Spraying by hand General United States. Spraying with knapsack	1 1	
Spraying by machine Monioe County—	1-2	12.2	(3-foot width, 1 row) Field sprayer—	1	3.17
Spraying by machine Maine—Aroostook County—	12	13.8	11, 4 rows. 11, 4 rows.	1—1 1—2	12.76 14.10
Spraying by machine	12	11.9			
		DUS	FING.		
Minnesota—Clay County:		20.5	Wisconsin-Continued		
By machine	1-1	32. 5 20. 0	Waupaca County— By hand Michigan:	1—0	10.2
By machine			Giand Traverse County— By hand	1-0	3.0
By machine New York—Monroe County:	1—2 1—2	11. 5 11. 1	Montcalm County— By hand New York:	1-0	7.0
By machine	1-0	8.0	Steuben County— By hand	1-0	7.0
Wisconsin. Barron County—			Monroe County— By hand	1-0	1.3
By hand	10	4.6			
		HARVI	ESTING.		
DIGGING.			DIGGING—continued		
General, United States—with plow	1—2 1—2	2.85	Michigan. Grand Traverse County—by		
•	13	4. 01 4. 24	hand	1-0	1.0
Minnesota.	1-4	5. 44 5. 2	by hand	1-0 1-2	.8
Clay County—by machine Anoka County—by machine. Wisconsin:	1-4	3.8	PIC! ING UP AFTER DIGGING.		
Barron County—by machine. Waupaca County—by ma-	1-4	3.1			
Michigan:	1-2	2.4	Minnesota Clay County—after digger Anoka County—after digger	1-0 1-0	$\frac{1.2}{1.7}$
Grand Traverse County—by machine	1—2	2.0	Wisconsin: Barron County—after digger.	4-0	2.1
New York:	1-4	2.3	Waupaca County—after dig-	1—0	.6
Steuben County—by ma- chine	1-2	2. 1 1. 9	Michigan Grand Traverse County— after digger	1—0	1.1
chine Monroe County—by machine Maine—Aroostook County—by machine	1-2	2.0	Montcalm County—after dig- ger. New York:	2-0	1.3
machine. Minnesota—Anoka County—by hand.	1-0	.2	New York: Steuben County—after digger	2-0 1-0	1 3
Wisconsin:	1 2	n	Steuben County—after digger Monroe County—after digger.	ī0	.6 ,

POTATO OPERATIONS-Continued.

Table 577.—Normal day's work per 10-hour day for various operations in potato production—Continued.

HARVESTING-Continued.

Location and item.	Crew 1	Rate	Location and item	Crew.1	Rate.
FICKING UP AFTER DIGGING— continued.			HAULING—continued.		
Continued. General, United States After plow— 75 bushels. 125 bushels. 200 bushels and over. After digger— 75 bushels. 125 bushels. 125 bushels. 125 bushels. 126-200 bushels. 201 bushels and over. SORTING AND GRADING. Minnesota: Clay County—sorting and grading. Anoka County—sorting and grading. Wisconsin—Waupaca County—sorting and grading. Wisconsin—Waupaca County—sorting and grading. New York: Steuben County—sorting and grading. Monroe County—sorting and grading. Monroe County—sorting and grading. Monroe County—sorting and grading.	1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0	Bushels. 61. 91 79. 37 99. 38 85. 63 108. 30 33 73 44. 54 43. 38 390. 0 288. 0 243. 0 263. 0 215. 0 360. 0	Minnesota Clay County—to barn Anoka County—to barn Misconsin: Barron County—to barn Waupaca County—to barn Michigan Grand Traverse County—to barn Montcalm County—to barn New York: Steuben County—to barn Monroe County—to barn Mane—Arostook County—to barn Minnesota: Clay County—to market Anoka County—to market Wisconsin: Barron County—to market Waupaca County—to market Michigan: Grand Traverse County—to market Montcalm County—to market New York: Steuben County—to market New York: Steuben County—to market Monroe County—to market Monroe County—to market	1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	Bushels 396. 0 448. 0 393. 0 396. 0 304. 0 432. 0 399. 0 660. 0 122. 0 159. 0 482. 0 399. 0
ing and grading	2-0	270.0	Maine—Aroostook County—to market	1-2	264. (
General, United States: To barn (size of load)—			Minnesota—Anoka County—with truck Michigan—Montcalm County—	10	151.0
1–30 bushels	1-2	202.67 233 14	with truck	10	270.
50 bushels 60 bushels 65-75 bushels	1-2	288. 25 369. 22 480. 03	truck	10	660.

¹ First figure refers to number of men and second figure to number of horses in crew.

COTTON OPERATIONS.

Table 578.—Normal day's work per 10-hour day for various operations in cotton production.

CLEAN DITCHES AND TERRACES.

Location and item.	Crew.1	Rate.	Location and item.	Crew.1	Rate.
Georgia: Laurens County Green County Sumter County. Alabama: Tallapoosa County Marshall County. Dale County.	2.1—0.9 2.3—0.7 1.3—0.8 1.1—1.7	Acres. 6.7 2.6 5.0 2.2 3.6 3.0	South Carolina Anderson County Barnwell County Texas: Ellis County Rusk County	2.3-0.7	Acres. 4.2 3.1 10.0 7.7

¹ First figure refers to number of men and second figure to number of horses in crew.

COTTON OPERATIONS—Continued.

Table 578.—Normal day's work per 10-hour day for various operations in cotton production—Continued.

CUT STALKS.

Location and item.	Crew.1	Rate	Location and item.	Crew.1	Rate
Georgia: Laurens County	1—2 1—2	A cres. 7 7 7 7 7 8.3 4.5 8 3 7.1	South Carolina Anderson County Barnwell County Texas. Ellis County Rusk County Louisiana By hand By stalk cutter (1-row)	1—2.4 1—2	Acres. 8 3 9 1 10 6 8.3 3.6 7.7

LAY-OFF ROWS

Georgia: Laurens County— With shovel plow Green County— With shovel plow Sumter County— With shovel plow Alabama: Tallapoosa County— With shovel plow Marshall County— With shovel plow Dale County— With shovel plow	1—1.2 1—1.6 1—1.4 1—1 1—1.2 1—1.2	5.6 4.8 6.7 4.8 6.7 5.3	Louisiana: With shovel cultivator— 2\frac{2}{-\text{foot}}. 3-\frac{1}{-\text{foot}}. 3-\frac{1}{-\text{foot}}. 4-\frac{1}{-\text{foot}}. 4-\frac{1}{-\text{foot}}. 4-\frac{1}{-\text{foot}}. Georgia: Laurens County— Open lows \frac{2}{-\text{county}}. Sumter County— Open rows Alabama: Tallapoosa County—	I—I 1—I 1—I 1—I 1—I 1—1	4. 9 5 9 6 6 7. 4 7. 7 6. 7 5. 6
South Carolina. Anderson County— With shovel plow	1-1.5	5.0	Open rows	1—1 1—1	5. 0 5. 9
Barnwell County— With shovel plow Texas: Ellis County—	1—1	7.1	Dale County— Open rows South Carolina Anderson County—	1—1	5.9
With shovel plow Rusk County—	1-2.1	12.5	Open rows	1—1.1	5.6
With shovel plow	1-1.2	7.1	Open rows	11	7.1
			Open rows	1—1.1	6.7

DRAG OR SMOOTH (LOG DRAG OR FLOAT).

		1	11		1
Georgia.			Georgia:		
Laurens County	1-1.8	7.1	Laurens County—		
Green County	1-1.8	6. 2	Bed and rebed	1-1.1	3.
Sumter County	1-2 0	7.1	Green County—		
Alabama:			Bed and rebed	1-1.2	2.
Tallapoosa County	$1-1 \\ 1-1.8 \\ 1-2$	5. 6 5. 9	Sumter County—		_
Marshall County	1-1.8	5.9	Bed and rebed	1-1.1	3.
Dale County	12	5.9	Alabama:		
South Carolina:			Tallapoosa County—		
Anderson County	1-1.7 1-1.8	8.3	Bed and rebed	11	2.
Barnwell County	11.8	8.3	Marshall County—		
Cexas:			Bed and rebed	1-1.1	2.
Ellis County	1—2.7 1—3	20.0	Dale County—	1-1	1.
Rusk County	13	11.1	Bed and rebed	11	1.
Louisiana:			South Carolina		
Harrowing after bed-			Anderson County— Bed and rebed	1-1.3	2.
ding-		m 0m	Barnwell County—	1-1.0	2.
Spiketooth, 4-foot row	11	7. 87 8. 11	Bed and rebed	1-1	3.6
Do	1-2	13. 30	Texas:	11	0,1
Spiketooth, 8-footrow	1-2	13. 30	Ellis County—		
Log, 6-foot row	11	13. 49	Bed and rebed	1-3.9	6.1
Log, 61-foot row	$\begin{array}{c} 1-1 \\ 1-2 \\ 1-2 \\ 1-1 \\ 1-2 \\ 1-1 \\ \end{array}$	6, 98	Rusk County—	- 0.0	•
A-harrow, 3½-foot row	11	0. 50	Bed	1-1.7	4.5
Shovel cultivator, 34-foot	1-1	7.06	Rebed	1-1.7 1-1.5	3.
row	1-1	7.00	100000111111111111111111111111111111111		

¹ First figure refers to number of men and second figure to number of horses in crew.
2 Strupper or middle buster, heel sween, brill tongue, scooter attached to Georgia stock.

COTTON OPERATIONS-Continued.

Table 578.—Normal day's work per 10-hour day for various operations in cotton production—Continued.

DRAG OR SMOOTH (LOG DRAG OR FLOAT)-Continued.

			~								
Location and item.	Wid of row	ы	Num- ber of fur- rows.		Rate.	Location and item. Wid	fur	Crew 1	Rate.		
BEDDING.						BEDDING-continued.					
Louisiana: With middle buster Do Do Turn plow	Fee.	31	1 1 1	1-2 1-2 1-2	Acres. 5.92 6.69 7.39	Georgia—Continued. Sumpter County— Run middles. Alabama	t.	1-1.0	Acres.		
Turn plow	4	33	1 2 2 2 2 2 2	1-1 1-1 1-1 1-2	2.81 3.52 3.67 3.41	Tallapoosa County— Run middles. Marshall County—		. 1-1.0	3.4		
	4	3	2 4	1-2 1-1	3.96 1.53	Run middles		. 1-1.0	5.6		
	3	32	4 4 4	1-1	1.64 1.93	Run middles		. 1-1.0	5.6		
	4	1	6	1-1 1-1	2.05 1.18	well County Run middles		. 1-1.0	7.1		
Louisiana: Rebedding turn		,			0.04	Texas—Rusk County: Run middles		. 1-1.2	7.7		
plow	3	31	2 2	1-1 1-1 1-1	2.86 3.43 3.88	Breaking middles— Middle buster	31/2 1	1-2	7 00		
	4	15	2 2 2 2 4	1-1	4.14 1.71	Shovel culti-	i^2 i		7.00		
Georgia:	4	ĺ	4	1-1	1.88	vator	33,	1-1	6.08		
Green County— Run middles				1-1.5	5 9	•	1 1	1-1	7.52		
*	PLANTING.										
	1				1			ī .	T		
Location and item	•		row.	Crew.1	Rate.	Location and item.	Width of row.	Crew.1	Rate.		
General, United States	:	1	Feet		Acres.	Alabama—Continued:	Feet.		Acres		
1-row planter			3½ 3½	1-1 1-2	7.1	Dale County— 1-row planter		1-1	5.0		
Louisiana: 1-row planter			3 3½	1-1 1-1	5. 95 6. 83	South Carolina: Anderson County—		1-1	5.6		
Georgia:			42	i-i	7.50	1-row planter Barnwell County— 1-row planter		1-1	6.7		
Laurens County-				1-1	6.7	Texas: Ellis County—			""		
1-row planter Green County— 1-row planter Sumpter County—				1-1	5.0	l-row planter Rusk County—		1-2	7.1		
1-row planter.				1-1	5.9	1-row planter General, United States:		1-1.1	6.7		
Alabama: Tallapoosa County	-			1-1		2-row planter General, United States:	31	1-2	14.1		
1-row planter Marshall County 1-row planter			• • • • • • • • • • • • • • • • • • • •	1-1	5.0	By hand in rows	31	1-0	4.6		
Ton product]	<u> </u>	ATING.		<u> </u>	<u></u>		
		<u> </u>			l			l	Ī		
HARBOW OR WEED Georgia:	٠.					BARR OFF.					
Laurens County Greene County	• • • • •			1-1 1-1.2	6.7	Georgia County County		1-1.1	3.4 2.9		
Alabama:	• • • • •		•••••	1-1.4	7.1	Laurens County		1-1 1-1	3.1		
Tallapoosa County Marshall County				1-1 1-1	4.6 6.7	Scraping, 2 furrows Do.	3½ 4	1-2 1-2	3.34 3.62		
South Carolina—Ande	rson			1–1	5.0	Tallapoosa County	- 	1-1	2.7		
County		-	•••••	1-1.1	5.9	Dala Country		1-1 1-1	3.2 2.9		
Ellis County]:::)	1-1.4	20.0	South Carolina—Anderson County		1-1	2.6		
		-	-	-							

COTTON OPERATIONS—Continued.

Table 578.—Normal day's work per 10-hour day for various operations in cotton production—Continued.

CULTIVATION-Continued.

Location and item.	Width of row.	Crew 1	Rates	Location and item.	Width of row.	Crew.1	Rate.
BARR OFF—continued Texas—Rusk County	Feet.	1-1.2	.1cres 3.4	RUN, OR SWEEP MIDDLES— continued. South Carolina	Feet.		Acres.
Without scraping, 1 fur-	3 ¹₂	1-1	6.75	Anderson County Barnwell County Texas			5. 6 7. 7
Single plow or harrow— 1 furrow— Do————	4	1-1 1-2	7.80 6 85 3 48	Ellis County Rusk County		1-1.8 1-1	6. 2 6. 2
2 furrows Do Following seraping, 2 furrows	3½ 4 3½	1-1 1=1 1-1	3 35	CHOP. Louislana	$\left\{\begin{array}{c} 3\\ 3\frac{1}{4} \end{array}\right.$	1-0 1-0 1-0	0.8 1.0 1.0
Single plow or harrow, 2 furrows	4	1-1	3. 70	Georgia Laurens County. Greene County. Sumter County.		1-0	1.1
Georgia. Laurens County		1_1	3, 4	Alabama Tallapoosa County Marshall County	}	1	.8
Greene County Sumter County		1—1. 2 1—2	5 6 5.6	Dale County South Carolina. Anderson County		10	.9
Alabama. Tallapoosa County Marshall County			2 6 3.1 2.8	Barnwell County Texas. Ellis County		1-0	1.3
Dale County South Carolina: Anderson County		1—1	4.8	Rusk County		1-0	1.0
Texas. Ellis County Rusk County General, United States		1-2 1-2 1-1 1-2	7 1 5 9 4.8 7.5	Louisiana: Hoeing Do		1-0 1-0 1-0 1-0	1. 18 1. 38 1. 40 1. 38
Louisiana: Middles 1 furrow Do Do	31/2	1-1 1-1 1-1	6. 00 6. 97 7. 28	Second hoeing Georgia: Laurens County Greene County Sumter County	1	1	1.4 1.0 1.1
RUN, OR SWEEF MIDDLES.				Alabama. Tallapoosa County Marshall County Dale County		1-0	1.1
Georgia: Laurens County Greene County Sumter County		1-1 1-1 1-1	6. 7 5. 6 5. 9	South Carolina		1-0	1.1
Alabama. Tallapoosa County Marshall County Dale County		1-1 1-1	5. 0 5. 9 5. 3	Barnwell County Texas: Ellis County Rusk County		. 1-0	1.5 2.4 1.7

¹ First figure refers to number of men and second figure to number of horses in crew.

PICKING COTTON.

	•				
Location and item.	Yield per acre (pounds).	Pounds per day.	Location and item	Yield per acre (pounds).	Pounds per day.
Georgia: Laurens County Greene County. Sumter County. Alabama Tallapoosa County. Marshall County Dale County.	743 725 484 632	152 151 157 155 155 143	South Catolina: Anderson County Barnwell County Texas: Ellis County Rusk County	696 723 510 533	159 142 236 183

COTTON OPERATIONS-Continued.

Table 578.—Normal day's work per 10-hour day for various operations in cotton production—Continued.

HAULING COTTON-ONE MAN AND TWO MULES.

Location and item.	Length of haul.	Bales per day.	Location and item.	Length of haul.	Bales per day.
Louisiana. Hauling to gin Do Do Do Do Do Do Do Do Do	Less than 1 mile. 1 to 2 miles	2. 24 1. 94 1 77 1. 68 1. 00 1. 45	Louisiana—Continued. Hauling to gin and market. Do. Do.	1 to 2 miles 2 to 3 miles 4 to 5 miles	2 00 1 66 1.08

HAUL TO GIN.

State and county.	Crew.1	Miles.	Man- hours per acre.	State and county.	Crew.1	Miles.	Man- hours per acre.
Georgia: Laurens County. Greene County. Sumter County. Alabama: Tallapoosa County. Marshall County Dale County.	$\begin{vmatrix} 1.1 - 2.2 \\ 1 & -2 \\ 1 & -2 \\ 1 & -2 \end{vmatrix}$	4. 07 3. 25 5. 31 5. 06 2. 68 3. 78	5.3 4.6 4.0 3.4 3.9 3.2	South Carolina: Anderson County Barnwell County Texas: Ellis County. Rusk County.	1-1.9	2. 46 3. 65 3. 65 1. 97	5.0 7.2 1.8 2.5

SUGAR-BEET OPERATIONS.

Table 579.—Normal day's work per 10-hour day for various operations in the production of sugar beets.

PLANTING.

Location and item.	Crew.1	Rate.	Location and item.	Crew.1	Rate.
Michigan and Ohio: Caro County Alma County Grand Rapids district Northwestern Ohio Colorado: Rocky Ford district Fort Morgan district. Greeley district Utah and Idaho: Garland district.	1—2 1—2 1—2 1—2 1—2 1—2 1—2 1—2	Acres. 9.1 8.9 8.4 9.8 8.8 9.7 9.4	Utah and Idaho—Contd. Provo district Idaho Falls district Twin Falls district Montana: Billings district. California: Los Angeles district Oxnard district. Salinas district Utah	1—2 1—2 1—2 1—2 1—2 1—2 1—2 1—2	Acres. 11.2 10.9 8.6 10.0 11.1 11.2 10.0 11.1

CULTIVATING.

Michigan and Ohio: Caro district Alma district Grand Rapids district Northwestern Ohio Colorado: Rocky Ford district Fort Morgan district	1-1 1-1 1-1 1-1 1-2 1-2 1-2	5.0 5.3 4.2 5.3 8.3 10.3	California: Los Angeles district Oxnard district Salınas district Utah Michigan and Ohio:	12 12 12 12	10.4 10.0 10.2 8,9
Greeley district	1-2	9.1	Caro district— Hoaing	1-0	.9
Utah and Idaho: 2 2-row cultivator 4-row cultivator	1-1	5.9	Alma district— Hoeing	10	.6
Lehi district	1-1.1	9.1 4.9	Grand Rapids district— Hoeing	1-0	.4
Twin Falls district Montana—Billings district	1. 1—1. 9 1—2	7.7 2.2	Northwestern Ohio— Hoeing	1-0	1.0

¹ First figure refers to number of men and second figure to number of horses in crew.
² Garland, Provo, Idaho Falls.

SUGAR-BEET OPERATIONS—Continued.

Table 579.—Normal day's work per 10-hour day for various operations in the production of sugar beets—Continued.

CULTIVATING—Continued.

Crew.1	Rate	Location and item.	Crew.1	Rate.
1—0 1—0	Acres .8	Colorado—Continued Greeley district— Furrowing for irrigation. Utah and Haho:	1—2	Acres. 9.4
1—0 1—0	.29	Lehi district— Furrowing for irriga- tion	11	5.7
10	.5	Furrowing for irriga-	1-2	8.3
1-0	.4	Billings district—		
10	.4	tion	1—2	10.0
1—0 1—0	1.1 1.6	Furrowing for irriga- tion	12	8.8
1—2	9.1	Idaho Falls district—	11.5	5.5
1—2	11.1	furrowing for irriga- tion	1—2	9.7
	IRRIG	ATION.		
		Uteh and Idaho-Contd		
1—0 1—0 1—0	4 2 3 2 3.4	Lehi district Twin Falls district Montana—Billings district	1—0 1—0 1—0	5.1 3 0 1.3
1—0 1—0 1—0	5 3 5.6 5.0	Cantorna: Los Angeles district Salinas district Utah	1-0 1-0 1-0	1.5 2.0 6.7
	LIFT	PING.		
1-3.4 1-3 1-2 1-2 1-2 1-2 1-2	1.8 2.4 2.0 2 2 2 4 • 2.3 2 2	Utah and Idaho—Contd. Provo district Idaho Falls district Lehi district Twin Falls district Montana—Billings district California: Los Angeles district Oxnard district Salinas district	1-2.5 1-2.9 1-2.8 1-2.8 1-3 1-4 1-6.5 1-6	1 7 2.1 1.4 2.2 2.3 2.4 2.8 2.2
1,,)		
	TOPE			
1—0 1—0	.4	Utah and Idaho—Contd. Idaho Falls district	1-0	.4
	IUAH	LING.		
1.1—3.56	Tons. 9.6	Utah and Idaho—Contd. Lehi district Twin Falls district Montana—Billings district	1—2.9 1—3 1—2.9	Tons. 9.8 13.1 10.4
	11.1	Californa:	1	
1—2, 59 1—2, 53	12. 5	Los Anegles district (1.20 miles) Oxnard district (1.76	1-5.4	25
	1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0	1—0	Acres Rurrowing for irrigation Leh district Furrowing for irrigation Tons.	1-0

FRUIT OPERATIONS

Table 580 — Normal day's work per 10-hour day for pruning and spraying fruit trees.

PRUNING.

Location and item.	Trees per acre.	Ciew.1	Rate.	Location and item.	Trees per acre.	Crew.1	Rate.
New York: Apples. Washington Wenatchee district—	35	10	Acres 0, 1	Western Colorado Apples Idaho—Payette Valley dis- trist	74	1—0	Acres.
ApplesYakıma district—	81	10	.2	Apples		10	.2
A pplesOregon—Hood River Valley	74	1-0	.2	Apples Pears.		1-0 1-0	.4
district: Apples	72	10	.4	Prunes. Poaches.		1—0 1—0	.4

SPRAYING APPLES.

Location and item.	Ctew.1	Rate	Location and item.	Crew 1	Rate,
FIRST SPRAY.			THIRD SPRAY—continued.		
New York:		Acres.	Western Colorado:		Acres.
Dormant spray	2-2	3 94	Lead arsonate	3-2	3.9
2. 02	2-2 3-2	4 76		3-2 2-2	3.6
Washington:			FOURTH SPRAY.		
Wenatchee district—					
Lame sulphur	3-2	1 14	Western New York	2—2 3—2	3.8
Yakuna district— Iame-sulphui—			Washington.	3-2	4.38
Owned rig	3-2	3, 34	Wenatchee district-		
Owned rig. Hired rig.	3-2 3-2	4.35	Lead arsenate	3-2	1.0
Western Colorado	l		Yakima district—		
Lime-sulphur	3-2 2-2	4.4	Lead arsenate—		
***	2-2	3.3	Owned rig	3—2 3—2	3.8
Idaho—Payette district: Lume-sulphur		0.01	Hired rig	3-2	5.2
Western New York.		3 31	Western Colorado Lead arsenate	2 0	3.8
Pink spray	2_2	3.96	Lieau arsenate	3-2 2-2	3.7
	32	4. 52	FIFTH SPRAY.	2-2	0. 1
Calyx spray	2-2	3.89			
	3-2	4.50	Western New York	2—2 3—2	4.5
Washington:			1	3-2	5.4
Wenatchee district—			Washington—Yakıma district		
Lead arsenateYakima district—	3-2	1.1	Owned rig	3-2	3.9 4.4
Colvy lead argentia.	Į.		Hired rig	3-2	3.8
Calyx lead arsenate— Owned	3-2	3.4	Western Colorado	2—2 3—2	3.8
Hired	3-2 3-2	4.52	SIXTH SPRAY	, -	0.0
Western Colorado:			•		
Lead arsenate	3-2	3.8 3.2	Western New York	2—2 3—2	3.7
Table Describe districts	2-2	3.2	We show of an Walman district	32	4.1
Idaho—Payette district: Calyx lead arsenate		3.69	Washington—Yakima district: Owned rig	2 2	5 1
Oaryx read arsenato		3.05	Hired rig.	. 3—2 3—2	8.9
SECOND SPRAY.		1	Western Colorado.	32	3.8
				3-2 2-2	4.0
Washington:		1	MISCELLANEOUS SPRAY.		
Wenatchee district—					
Lead arsenate Yakima district—	3-2	1.2	Oregon—Hood River district: General spraying—		
Lead arsenate—			Owned rig		5.4
Owned rig	3-2	3, 69	Owned rig. Hired rig		5. 9
Hired rig	3-2	5, 39	ll IItah		• • •
Western Colorado:			Apples Pears	1—2 1—2	4.4
Lead arsenate	3-2	3.9	Pears	1-2	3 3
THIRD SPRAY.	2-2	3.6	Prunes	1-2 1-2	$\frac{1.9}{3.3}$
THIRD SPRAY.	1	İ	Peaches Western New York:	12	9.0
Washington:	1	1	Spraying apples with "spray		
Wenatchee district-		1	gun"—		
Lead arsenate	3-2	1.2	Delayed dormant	2-2	5.7
Yakima district—		1	Pink	22	5.5
Lead arsenate—			Calyx	2-2	5 3 5.8
Owned Hired		3.88	2-week	2-2	5.8 5.2
Titten	5-2	5. 93	Aug. 1 spray	22	5.2

FRUIT OPERATIONS—Continued.

Table 581.—Normal day's work per 10-hour day for various frust harvesting and marketing operations.

PICKING APPLES.

Location and item.	Crew.1	Rate.	Location and item	Crew.1	Rate
Western New York	1—0 1—0	Boxes	Washington—Continued North Yakima district Zillah district Western Colorado Idaho—Payette district	10	Bores. 61 98 57 26 57 82 67

PICKING.

Oregon—Hood River district Showing influence of yield on picking apples— 150 boxes and under 151-200 201-250 251-300 301-400. Washington—Yakima district:	1—0 1—0 1—0 1—0 1—0	Boxes. 59.4 58.1 68 0 63 6 53.7 57.3	Western New York Peaches (yield per tree)— 1 bushel. 2 bushels. 3 bushels. 4 bushels. 5 bushels. 8 bushels. 10 bushels.	10 10 10 10 10 10	Bushels 22 6 34 2 35 2 39 0 40 5 46 7 55 3
Showing influence of yield on picking apples— 200 and under. 201-300. 301-400. 401-500. 501-600. Over 600.	1—0 1—0 1—0 1—0 1—0 1—0	66 60 56 57 60 00 63 14 64.65 60 78	Utah. Peachos ² . Prunes ³ . Pears ³ .	1—2 1—2 1—2	Cases 33 3 Tons 0 6 .8

SORTING AND PACKING.

Western New York: Apples Washington: Wenatchee district Yakıma district Yakıma district Western Colorado Idaho—Payette district: Sorting Oregon—Hood River district: Sorting by machine Sorting by hand Packing sorted apples Washington—Wenatchee district Packing sorted apples Idaho—Payette district: Packing sorted apples Idaho—Payette district Packing sorted apples	1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0 1-0	Barrels. 29 Boxes. 69 59 41 75 to 80 82 53 77.5 76 55 7	Western New York: Packing peaches— 1-bushel basket. 1-bushel basket. 1-bushel basket. Western New York: Apples—	1-0 1-0 1-0 1-0 1-0 41-51 41-52 42-51 42-52 43-51 43-52 44-52	89 8 99.5 81 0 58 7 Barrels. 57 7 66 6 78 8 90 3 100 2 117.1 127.2
Packing sorted apples	1-0	55 7			

First figure refers to number of men and second figure to number of horses used.
 Includes packing and hauling.
 Pick and haul.
 Sorters
 Packers.

FRUIT OPERATIONS-Continued.

Table 581.—Normal duy's work per 10-hour day for various fruit harvesting and marketing operations—Continued.

HAULING TO STATION.

Location and item.	Dis- tance hauled.	Size of load.	Rate	Location and item.	Dis- tance hauled.	Size of load.	Rate.
Western New York (1 man and team): Wayne County. Ontaino County. Monroe County. Nigara County. Nugara County. Washington: Wenatchee district— With 1-2 crew 1. North Yakima district, with 1-2 crew 1. Zillah district, with 1-2 crew 1.	Miles 2 68 1 82 2 09 1 2 51 2 26 1.78 1.32 2.49 1.18	Barrels 24 22 22 22 24 20 Boxes 89.69 46.53 96 86	Barrels. 84 5 101 106. 4 97 5 84 6 Boxes 378 328 325 419	Western Colorado, with 1-2 crew Mesa district, with 1-2 crew 1 Delta district, with 1-2 crew 1 Montrose district, with 1-2 crew 1 Idaho, Payette district, with 1-2 crew 1 Oregon, Hood River district, with 1-2 crew 1	Mues. 2 1 2.53 3.3 1.32 4.00	Barrels. 76 71 76 72 87	Barrels. 279 195 194 309 189
Location and item.	Size of load.	Crew.1	Rate.	Location and item.	Size of load.	Crew.1	Rate.
Washington, Wenatchee district. Hauling to packing house— With sled With wagon	Boxes. 30. 2 15. 6 42. 2 29. 5	1—2 1—1 1—2 1—1	Boxes. 559 387 566 437	Western Colorado (hauling to and hom packing shed). Mesa district	Boxes. 33 40 42 20 21 99 53	1—2 1—2 1—1 1—1 1—1 1—2 1—2	Boxes. 649 449 403 490 267 1,276 649
Location and item.	Size of load.	Dis- tance.	Rate.	Location and item.	Size of load.	Dis- tance.	Rate.
HAULING SHOOKS 1—2 CREW.¹ Washington, Wenatchee district Western Colorado; Mesa district	Shooks. 477 428	Miles. 1.83 3.03	Shooks. 2,385 4,468	HAULING SHOOKS, 1—2 CREW —continued. Western Colorado—Con. Delta district Montrose district Idaho, Payette Valley	Shooks. 383 400 471	Miles. 3, 13 3, 3 1, 24	Shooks. 3,305 3,054 1,852

¹ First figure refers to number of men and second figure to number of horses used

MINOR CROP OPERATIONS.

 ${\it Table 582.-Normal\ day's\ work\ per\ 10-hour\ day\ for\ various\ operations\ of\ several\ minor\ crops.}$

	crops.			
Location and item.	Crop.	Width of row.	Crew.1	Rate.
PLANTING.				
General, United States Planting by hand	Sweet potatoesdododo	Feet. 3 182223 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	1—1 2—1 2—2 3—2 1—0 1—0 1—0	Acres. 1 0 1. 6 1 9 2. 4 1 3 1 13 1. 17 1. 04
Do. Western New York Setting with machine. Do. Do. Do. Do. Do. Do. Do. Do. Do. Do	Cabbage		3—2 4—2 5—2 4—3 5—3 4—4 5—4	3. 5 3. 5 3. 6 3. 6 3. 8 3. 9 4. 2
One-row planter Do Planting by hand Do Do Do Do Do Western New York:	Peas in corn. Cowpeasdo Peas in corndodododododo.	4 212 3 312 4 412 23 3	1—1 1—1 1—0 1—0 1—0 1—0	7. 55 4. 87 5 69 6 23 7 18 6. 80 3 05 3. 81
Louisiana	Beans		1—2	11.3
Planting by hand	Peas in corn			15. 53 13. 50
CULTIVATION. General, United States: Cultivating	BeansdoCabbagedo.		1—1 1—2 1—1 1—2	3. 95 6. 44 4. 17 6. 19
Cultivating Do Do Barring off with turn plow Do With artifactor	Peanuts	2 a 5 a 5 a 5 a 5 a 5 a 5 a 5 a 5 a 5 a	1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-0 1-0	2. 45 2. 88 3. 30 3. 00 3. 14 4. 75 . 70 . 74 . 65
Pulling up Shocking Stacking Hauling to barn Grinding cane— 40-100 gallons. 60-100 gallons. Western New York Harvesting beans with bean harvester Bunching with fork.	dododododo		1-0 1-0 1-0 1-0 2-3 3-2 4-2 1-2 1-0	1. 08 1 44 1. 62 1. 63 5 03 6 33 73. 2 76. 0
Western New York Harvesting beans with bean harvester. Bunching with fork Forking. Hauling from field— 1 wagon. 1 wagon. 2 wagons. 2 wagons. 2 wagons.			1-0 2-2 3-2 4-4 6-4 5-4	2. 85 2 75 5. 6 6. 6 10. 5 12. 4 11. 1

MINOR CROP OPERATIONS-Continued.

Table 582.—Normal day's work per 10-hour day for various operations of several minor crops—Continued.

HARVESTING SWEET POTATOES

Location and item.	Width of row	Crew.1	Rate	Location and item	Width of low.		Rate.
Louisiana: Cutting vines Dragging vines—turn plow Plowing up — middle burster. Do. Picking up (yield per acre, 135 bushels).	3 33	1-0 1-1 1-2 1-2 1-0	A cres. 0. 93 2. 79 4. 38 4. 57	Louisiana—Continued Hauling to barn (yield per acre)— 40-200 bushels 40-210 bushels General Umited States: Digging—s weet- potato plow		2—2 3—2	A cres. 1.62 1.87 4.20

HARVESTING CABBAGE.

Location and item.	Distance.	Imple- ment.	Crew 1	Rate
	1 mile	Wagon, 11122111221112211122111221111221111221111	2-2 3-2 4-2 4-4 6-4 2-2 4-2 4-2 4-2 4-4 6-4 2-2 3-2 4-2 4-2 4-2 4-2 4-2 4-2 4-2 4-2 4-2 4	Loads. 7.5 8.1 9.6 12.5 5.9 4.8 10.6 11.3 4.7 4.8 7.1 3.6 6.6 3.6 3.6 4.8 7.1 2.4 3.4 3.4 3.4 3.4 3.6 4.7

BERRY OPERATIONS.

Location and item.	Crew.1	Rate.	Location and item.	Crew.1	Rate
UTAH. Pruning and thinning raspberries. Cultivating— Strawberries. Raspberries— Hocing— Strawberries. Raspberries Irrigating— Strawberries Raspberries Raspberries Raspberries	1-0 1-1 1-1 1-0 1-0 1-0	Acres. 0.1 4.4 4.4 .7 .7 .7 6.6 6.6	UTAH—continued Weeding— Strawberries Raspberries Picking and hauling— Strawberries Raspberries	2-0 2-0 1(1-2) 12	A cres. 5 5 1.1 Crates 10.0 8.4

¹ First figure refers to number of men and second figure to number of horses in crew.

MINOR CROP OPERATIONS-Continued.

Table 582.—Normal day's work per 10-hour day for various operations of several minor crops—Continued.

RICE OPERATIONS.

Operation and State.	Crew.1	Rate.	Operation and State.	Crew 1	Rate
Hauling seed to farm: Toxas. Louisiana Arkansas. Seeding drill: Texas. Louisiana Arkansas. Endgate seeder: Texas. Arkansas. Cutting, 6-foot binder: Texas. Louisiana Arkansas. Shocking: Texas.	1—2 1—2 1—4 1—2 1—2	Loads 20 20 20 A cres 10 15 10 15 20 25 20 40 6 8 7	Shocking—Continued. Louisiana Arkansas Texas Louisiana Arkansas Texas Louisiana Arkansas Seeding (tractor) drill: Texas Cutting (tractor), 6-foot binder: Texas Louisiana Arkansas	2-0 3-0 3-0 4-0 4-0 4-0 2-0 2-0 2-0	Loads { 8 6 6 10 0 8 8 10 0 10 12 6 6 6 15 10 10 10 10 10 10 10

¹ First figure refers to number of men and second figure to number of horses in crew.

FARM LABOR.

Table 583.—A normal day's work in hauling to market with wagon for 1 man and 2 horses (loading, hauling, and unloading), giving the number of loads per day, by distance hauled, for each commodity.

Distance hauled, etc.	Baled cot- ton.	Corn from crib.	Bar- reled crops.	Bagged crops.	Baled hay.	Small grain from bin.	Cab- bage.	Loose cot- ton.	Pota- toes from cellar.	Loose hay.	All com- modi- ties.
1 mile	6. 57 3. 86 3. 63 2. 62 2. 29 2. 55 2. 33 1. 66 1. 00 1. 33	5. 00 3. 75 2. 95 2. 47 2. 15 1. 99 1. 79 1. 31 1 18 1. 17	4. 57 3. 89 3 20 2. 80 2. 11 2. 06 1. 57 1. 12 1. 33 1. 09	5. 29 3. 91 3. 23 2. 64 2. 11 2. 04 1. 87 1. 27 1. 25 1. 19	5. 25 3. 92 3. 05 2. 51 2. 19 2. 03 1. 87 1. 44 1. 50 1. 60	4.51 3.37 2.93 2.52 2.14 1.99 1.71 1.40 1.42 1.16	3. 87 3. 27 2. 58 2. 34 1. 89 1. 80 1. 70 1. 15 1. 25 1. 00	2.50 2.53 2.50 2.09 1.81 2.00 2.50 1.14 1.00 1.21	3. 17 3. 02 2. 29 2. 06 1. 78 1. 66 1. 46 1. 42 1. 10	3.64 2.69 2.19 1.99 1.72 1.82 1.48 1.22 1.30 1.09	4. 39 3. 43 2. 79 2. 02 1. 94 1. 72 1. 30 1. 26 1. 14

FARM LABOR-Continued.

Table 584.—Normal day's work in building wire fence: Amount of fence that 2 men can build in a day, both when setting the posts and when driving them, and when they are spaced at various distances.

	D		ork, po	osts		Day's work, posts spaced—				
Kind of fence.	12 feet or less.	13 to 161 feet.	17 to 24 feet.	25 to 37 feet.	Kind of fence.	12 feet or less	13 to 16½ feet.	17 to 24 feet	25 to 37 feet.	
Barbed wire 2 strands— Posts driven. Posts set. 3 strands— Posts driven. Posts set. 4 strands— Posts driven. Posts driven. Posts driven. Posts strands— Posts driven. Posts set. 5 strands— Posts driven. Posts set. Posts driven. Posts set. Posts driven. Posts set. Posts driven. Posts set.	Rods. 58. 7 64. 0 43. 7 76. 6 39. 3 52. 2 25. 3 29. 5 19. 4	89. 5 71. 5	Rods. 95 0 75. 0 116 4 68 3 92. 4 50. 6 70. 9 38. 7 67. 5 32 0	Rods. 166. 9 121. 5 156. 0 95. 4 95. 0 70. 8 100. 0 46. 2	Narrow woven wire with 2 or more barbed wires: Posts driven. Posts set. Wide woven wire with 1 barbed wire: Posts driven. Posts set. Wide woven wire without barbed wire: Posts driven. Posts driven. Posts driven. Posts driven. Posts driven. Posts driven. Posts set.	Rods. 48 7 26. 3 50. 9 27 2 61. 3 30. 6	Rods. 53 0 33.0 55 3 33.9 65.4 39.0	Rods 74. 1 37. 9 77. 2 39. 9 80. 2 45. 8	Rods. 89.8 47.1 94.2 49.7 108.5 56.7	

Table 585.—Sources of farm labor (in terms of hours)

		Unp	aid.	Hir	ed.	Ex-	Per	ent of d	stributi	on.
State.	Total per farm.	Pro-		Ъу	Ъу	changed with neigh-	Unj	aid.	Hire	ed.
	701721	prietor.	Family.	month.	day	bors.	Pro- priesor.	Family.	Month.	Day.
Minnesota—Mixed farms Wisconsin—Dairy farms Illinois—Corn farms New York: Fruit farms Fruit farms Fruit farms Cohio: Live-stock farms Crop farms	10,360.0 6,881.3	2,880.5 2,725.2 2,776.6 3,405.0	1,180.0 9,8 65.9 119.2 1,064.4	5,000.1 4,500 0 3,119.9 3,493.3 4,976.1 3,010.2 2,130.4	871.1 1,471.5 2,017.6 872.4	94. 4 95. 3 62. 3	33. 0 41. 9 35. 1 28. 0	11.5 .1 .9 1.2	15.3	12.5 12.7 19.0 20.6 10.5

FARM LABOR-Continued.

Table 586.—Average length of day required of hired labor, by States.

[Estimates based upon reports of crop correspondents of the Bureau of Statistics (Agricultural Forecasts)]

gu ta and director	Spr	nng	Sum	ımer.	F	all.	Wır	iter	Averag	
State and division.	Hours.	Min- utes.	Hours.	Min- utes.	Hours.	Min- utes.	Hours.	Min- utes.	Hours.	Min- utes.
Maine. New Hampshire. Vermont. Massachusetts. Rhode Island.	9 9 10 9	50 55 15 45 40	10 10 10 10 10	20 40 10	9 9 10 9 10	35 50 5 40	8 9 9 8	40 10 15 55 50	9 9 9	39 44 45 35 40
Connecticut New York New Jersey Pennsylvania Delaware	9 10 10 10 9	50 5 50	10 10 10 10 11	30 30 15 40 10	9 9 9 9	40 50 35 40 25	8 8 8 8	55 35 40 40 30	9 9 9 9	44 45 37 45 44
Maryland Virginia West Virginia North Carolina South Carolina	9 9 9 9	55 45 45 45 35	11 10 10 10 11	45 55 25 55 5	10 9 9 9 9	50 55 50 35	S 8 8 8	50 35 50 40 25	10 9 9 9 9	7 46 44 47 40
Georgia Florida Ohio Indiana Illinois	9 9 9 9 10	45 45 45 40 10	11 10 10 10 11	10 35 35 50 5	9 9 9 9	45 50 40 40 50	8 9 8 8 8	35 20 20 5 15	9 9 9 9	49 52 30 34 50
Michigan	9 10 10 10 10	55 40 30	10 11 11 10 11	20 15 20 45 15	9 10 10 9 9	35 10 25 50 55	8 9 8 8	25 45 15 25	9 10 10 9 9	34 16 15 42 54
North Dakota South Dakota Nebraska Kansas. Kentucky	10 10 10 9 9	50 15 5 45 40	11 10 10 10 11	5 55 50 55 15	11 10 9 10 9	15 55 50	8 8 8 8 8	5 30 15 25 15	10 9 9 9 9	15 59 46 46 45
TennesseeAlabama MississippiLouisiana Texas	9 9 9 9	40 50 45 30 50	11 11 11 10 11	5 15 40	9 9 9 9 10	45 50 45 50	8 8 8 8	15 40 40 50 45	9 9 9 9	41 54 47 44 54
Oklahoma Arkansas Montana Wyoming Colorado	10 9 10 10 9	50 15 55	11 11 10 10 10	25 25 20 20	10 10 9 9	15 55 35 50	8 8 8 8	30 35 20 10 30	9 9 9 9	47 51 44 31 39
New Mexico Arizona Utah Nevada	9 9 9	45 30 30	10 10 9 10	30 15 30	10 9 9 9	40	8 8 7 8	40 20 55 25	9 9 8 9	44 26 51 21
Idaho Washington Oregon California	9 9 9 9	55 50 55 45	10 10 10 10	25 25 35 25	9 9 10 9	45 55 45	8 8 8 8	10 20 25 55	9	44 37 44 42
United States	9	54	10	54	9	52	. 8	33	9	48

FARM LABOR-Continued.

Table 587.—Length of work by proprietor and hired labor, average number of hours worked by proprietors and hired men.

OHIO FARMS.

		Week	days.		Sunday.				
Month.	Live-stock farms Propridetor. Hiredetor.		Crop f	arms	Live-stoo	k farms.	Crop farms.		
			Propri- etoi.	Hired man.	Propri- etor.	Hired man.	Propri- etor.	Hued man.	
January. February March. April. May June. July August September October. November December.	10 6 11 5 11 6 11 6 10 7 10 9 10 6 10 8 10 2	Hours. 9 3 10.0 10 2 11 0 11 1 11 8 11 3 10 9 10.6 10 1 10 6 9 8	Hours. S 8 8.9 10.2 10.2 11.3 11.3 11.2 11.1 10.5 10.2 9.4	Hours. 8 9 9.9 10 3 10 2 11.1 11.1 10.7 11.0 10 7 10.4 10 4 9.7	Hours. 4.8 5.1 6.0 4.2 4.7 5.0 3.1 3.6 3.8 4.6 5.2	Hou.s. 3 9 4 3 3 9 3 2 2 9 2 5 3 2 8 4 1 4 0	Hours. 5 5 5 5 9 3.3 3 1 7 2 2 9 6 9 2 2 4	Hours 3.0 2.4 2.0 2.2 1.8 1.3 1.5 1.6 1.7 2.4	
Average	10.8	10 5	10 4	10.5	4.5	3 6	3 1	1.9	

NEW YORK FARMS.

		Week	days.		Sunday.				
Month.	Fruit farms.		Live-stoo	ek farms.	Fruit	farms.	Live-stock farms.		
	Propri- etor.	Hired man.	Propri- etor.	Hired man.	Propri- etor.	Hired man.	Propri- etor.	Hired man.	
January. February March April. May June July August. September October. November December.	6 6 7.4 10.4 10 1 10 2 10 0 9.5 9.8 10 6	9.0 8 6 10 0 10.7 10.9 11. 1 10.8 11. 2 10.8 11. 2 10.8	6. 4 6. 9 7. 7 9. 8 10. 2 9. 9 10. 3 9. 5 10. 3 11. 3 9. 5 7. 3	9.1 19.3 11.4 11.8 11.9 11.5 11.5 11.5 11.5 10.5	2.7 5 2.6 8 2.7 9 2.7 9 1.7 7 2.5 8 1.8 0 2.2 9 2.2 9	3 3 2.6 2.1 2 3 1.8 2 3 1.4 2.5 1.7 1.9	786412125364 222222364	3.2 3.0 2.8 2.9 2.7 2.8 2.7 2.7 2.6 2.6 3.1	
Average	9.0	10.5	9.2	10.9	2.2	2.2	2. 5	2.8	

FARM LABOR-Continued.

Table 587.—Length of work by proprietor and hired labor, average number of hours worked by proprietors and hired men—Continued

ILLINOIS AND MINNESOTA FARMS.

		Illinois	farms.		Minnesota farms.					
Month.	Week days.		Sund	lay.	Week	days.	Sunday.			
	Proprietor.	Hired man.	Propri- etor.	Hired man.	Proprietor.	Hired man.	Propri- etor.	Hired man.		
January February March April May June July August September October November Decembet Average for year	7.8 10 4 11.2 11.5 10 8 10 9 10 2 9 3 9 2 7 8	Hours. 9.2 9.0 10.8 11.8 112.4 12.3 12.0 11.7 11.5 10.8 10.3 9.4	Hours. 2.5 6 2.3 2.4 2.2 2.3 2.4 2.2 2.3 2.4 2.2	Hours. 3.6 3.2 3.2 2.2 1.5 1.6 2.0 2.1 2.7	Hours. 8 9 9 5 10 2 11.4 10.6 11.7 11.6 11.1 11 6 10.6 9.5	Hours. 10.1 9 3 10.1 12.0 12.4 12.3 12.2 12.4 11.6 12.0 11.3 10.3	Hours. 6 2 6 6 3 3 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Hours. 5 3 5 3 5 2 4 0 3 7 3 3 3 8 4 4 4 8		

. Table 588.—Average week-day and Sunday hours of work for hired men and proprietors on 10 general farms and 12 dairy farms in Wisconsin.

	Average week-day hours.							Average Sunday hours.						
No. of the	Hi	red me	a.	Proprietors.			Hired men.			Proprietors.				
Months.	Gen- eral farms.	Dairy farms.	Both.	Gen- eral farms.	Dairy farms.	Both.	Gen- eral farms.	Dairy farms.	Both.	Gen- eral farms.	Dairy farms.	Both.		
April. May June July August. September Octobor November December January February March	Hrs. 11.7 12.2 11.5 11.3 12.0 11.1 11.9 11.0 11.0 11.0 11.9 11.0 11.9	Hrs. 11. 9 11. 8 11. 8 12. 0 12. 3 11. 6 11. 2 11. 6 10. 3	Hrs 11.8 12.0 11.7 11.6 12.0 11.6 12.1 11.3 11.1 11.5 11.1	Hrs. 10.8 11.5 10.6 10.1 11.4 11.1.9 10.5 10.2 10.1 9.7 10.4	Hrs. 11.0 11.3 11.9 11.6 11 1 10.4 10.5 10.2 9.3 9.5	Hrs. 10.9 11.4 11.3 10.9 11.2 10.9 11.1 10.4 10.4 10.2 9.5	Hrs. 6.1 6.0 4.5 4.4 4.6 4.1 4.8 5.0 5.2 5.0 6.2	Hrs. 5.0 5.7 4.9 4.5 6.3 5.8 6.0 5.3 3	Hrs. 5.58 4.37 4.66 5.55 2.6	Hrs. 53 4.8 3.6 3.9 4.0 4.1 4.2 4.8 5.3 5.2	Hrs. 5.5 5.86 5.65 5.1 4.9 5.4 5.4 5.7 6.1	Hrs. 5.4 5.3 4.81 4.1 3.9 4.6 4.6 5.9 5.5 5.6		
Average for year	11.42	11.63	11.52	10.61	10.71	10. 68	4.77	5.02	4. 91	4.56	5. 33	4.98		

HORSE LABOR.

Table 589.— Number of hours that different-sized teams were used.

ILLINOIS-14 FARMS. (Average number of horses per farm, 84)

						(1210)	50 1101111	0121	Ortico pi	r iurin,			
Size of teams	Jan.	Feb.	Мал	Apr.	May.	June	July.	Aug	Sept	Oct	Nov.	Dec.	Total.
1 2 3 4 5 6	Hours 17 5 108.8 .9 1.4	Hows 14 6 118 3 . 8 2 9	Homs. 15.5 117.4 .6 1.3	Hours. 18 3 154 2 24 4 102.3	Hours. 27.3 205 2 65 2 226 9 9.6 1.1	Hours. 27. 1 131. 1 25. 6 63 1 1. 3	Houss. 41.5 378 7 16 1 37.8 1.0	Hours. 47.3 242.5 8.1 21.1 3.0	Hours. 43. 5 181 6 17 8 54 9	Hows 30.3 181 7 13.5 45 1	Hours 21.9 358.8 7 4 5 5	Hours. 25.9 191 5 4 1 5 5. 4	Hours. 330.7 2,679.1 184.5 562.8 14.9 10.0
		WISCO	NSIN-	-26 FA	RMS	(Avera	ge num	ther of	horses 1	pei fain	a, 4 5)		
1 2 3 4 5 6	20.8 88.2 4 0 1.7	21.6 104.6 3 0 1 2	22.8 108.8 1.8 3.2	25 2 130 6 46 8 37 1 1.0 1.2	25 6 155 2 81 5 40 1 2.4 3.0	36.6 215.7 37.9 18.0 1.9	70. 2 262 2 36 9 9. 5	42 2 195 5 22.1 3.8	37 4 188 9 27.0 11 3	34.6 173.5 37.5 29.0	30 4 166.7 27 3 10.5	29 5 103 2 9.7 .7	396.9 1,923 1 335.5 175.1 5.3 8.7
		NEW	YOR	K—14 1	FARMS	. (Ave	erage nu	ımber h	orses p	er farm,	5.3.)		
1 2 3 4				31. 1 78	3. 0 3. 4 160. 3. 6 3. 6 16	0 250.8	280 4 63.6	56 5 289. 9 26. 9 3. 1	183.4 1	88.6 21 16.7	4. 8 20 9. 8 176 2 6 10 1. 9 4	. 8 94.	9 2,053.4 6 282.2
MINNESOTA—16 FARMS. (Average number horses per farm, 6.8.)													
2			9. 6 102. 1 3. 4 1. 7	$egin{array}{cccc} 22.0 & 128 \ 2.3 & 2 \ 2.8 & 10 \ \end{array}$	3. 6 104. 2. 6 27. 3. 1 91. 1. 1 16.	8 42.7	279.3 49.6 40.6 8.2	18 9 308. 1 45. 3 37. 6 3. 0 2. 8	314. 5 2 41. 9 60. 1	00. 1 22 52. 6 2 50. 4 4 27. 3 4	0. 1 16 5. 1 217 1. 7 22 2. 4 21 4. 2 18 9 5 10	. 8 136. . 6 6. . 7 8. . 7 2.	3 2,285.8 3 318 8 9 507.0

AVERAGE HOURS WORKED PER HORSE PER MONTII.

State.	Jan	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total per year.
Wisconsin Minnesota Illinois New York		39. 9 31. 0	49. 9 31. 1	105. 7 93. 7	157. 1 181. 2	136.6	137. 2 116. 9	144. 9 64. 1	131. 2 78. 9	143.0 72.8	109.8 92.7	52. 2 54. 5	1, 245 989

INDEX.

Abandoned farms, relation to forest depletion	Page.
"Accredited-herd plan," usefulness	99
Africa, grain sorghums, production	341
Agricultural	
Conference, National, attendance and work	19 14
Economics Bureau, formation and work	17 E7 E0
Inquiry, Joint Commission, work	13
products	
exports, statistics	955-964, 968, 970-976, 982
exports, statistics	982
imports, statistics 949	9-955, 961, 965-968, 977-982
Statistics—	
Appendix	569-1078
census of 1920	1003–1009
miscellaneous	983–1078
Agriculture—	
conditions, review by Secretary	1-10
Department—	
appropriations, 1922	61, 65–68
building programcooperation with States in tick eradication	49-51
cooperation with States in tick eradication	343
economies effected, reviewestimates on hogs, numbers	100 100 100
inspection of butter, location of offices	974
market reports, daily	380
part of Market News Service in making price	
receipts from Forest Service and other source	8 62.63-64
Secretary, report for 1922	
See also Farm.	
Air-cured tobacco, nature, production and uses	406-408
Alabama—	
cold-storage space, 1922	1019
farm—	
expenses	
mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920	1009
farmer's, food supply sources	999, 1000
farms, classification by size	1008
food supply of farm, sources forest fires, causes, size, damage, and area, 1921_	250 050
rice production, in 1849–1919	515–517
wages on farm 1913 and 1922	996
Alaska, cold-storage space, 1922	1019
Alcohol, industrial, use of grain sorghums in manufac	ture 531
Alfalfa	
harvost soason	988
hay, farm prices by months	691, 693
S001	
hervest season	988
nrices farm and market	700, 704
grantity nor agra	990
usefulness in dairy feeding	552
Almonds, imports, statistics	953
inimal	
Industry Bureau, economies effected	08
exports, statistics	040_950 961 967 977_978
imports, statistics products, statistics, production, prices, etc	804–811
products, statistics, production, prices, etc	

Animals—	
farm—	Page.
and products, statistics	795-913
See also Live stock.	
exports, statistics	955 001 000
Imports, statistics	949 961 977
predatory, control work	28-29.59
Apples—	•
cold-storage holdings, by months	738
commercial crops of 1920-1922, summary	984
crop losses, cause and extent, 1912-1921	
crops of 1920–1922, summary	984
exports, statisticsfreight rates for several routes, 1900–1923	958, 963, 972
harvest season	988
prices, by States and by months	730 732
production, by States, 1889-1922	
shipments, carlot, by States and by months	736-738
statistics—	
of day's work	1068
production, prices, etc	
total, crops of 1920–1922, summary	984
Appropriations, Agriculture Department, 1922	
Apricots, exports, statisticsArgentina—	998, 972
flaxseed, production and exports	532_525
hogs, increase, graph	
Argentine, pesos, exchange rates, 1912–1922	1010
Argols, imports, statistics	950, 961, 965
Arizona—	
cold-storage space, 1922	1019
farm— expenses	1005 1006 1007
mortgage debt	
operators, nativity	
population, lands, etc., in 1920	
farmer's food supply, sources	
farms, classification by size	
food supply of farm, sources	
forest fires, causes, size, damage, and area, 1921	933, 938
grain sorghum, acreage, etc., 1922	
wages on farm, 1913 and 1922	996
Arkansus— cold-storage space, 1922	1019
farm-	
expenses	1005, 1006, 1007
mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920	1009
farmer's food supply, sources	999, 1000
farms, classification by sizefood supply of farm, sources	
forest fires, causes, size, damage, and area, 1921	
rice—	
growing, development	567
production in 1859–1919	516-517
wages on farm, 1913 and 1922	996
Ash, lumber production, by States, 1920	927
Asia—	525
grain sorghums, productionrice production, principal countries	
Asses, world, numbers by countries	795–801
Auctioning, tobacco, methods and practices	434-437
Auctions, sales of hogs, advantages	

Australia, exports of pork	P	age.
Australia (Apollos of polarica 1010 1011		273
Austria-Hungary, rye production, 1910–1914		501
Avena—		
byzantina, value for warm climate		476
sativa. See Oats.		110
Ayrshire cow, champion butter-fat producer		328
		0-0
Bacon—		
Aynorts statistics		
exports, statistics 908, 956, market prices, wholesale and retail, 1913–1922	962,	971
De tariolem politica to delicario retail, 1913–1922		894
Bacteriology, relation to dairy sanitation		336
Baker, O. E.—		
E. Z. RUSSEL, S. S. BUCKLEY, C. E. GIBBONS, R. H. WILCOX, H. W	V	
HAWTHORNE, S. W. MENDUM, O. C. STINE G. K. HOLMES A. J.	7	
HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, an	V .	
C. F. LANGWOPTHY ordigle on "Hog production and moderation, and	iu	200
C. F. LANGWORTHY, article on "Hog production and marketing" O. A. Juve, W. J. Spillman, C. R. Ball, T. R. Stanton, H. V. Ha	181-	280
O. A. SUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HA	R-	
LAN, C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STIN	E,	
article on "Oats, barley, rye, rice, grain sorghums, seed flax, an	1d	
buckwheat "	460_	568
BALL C. R. T. R. STANTON H V HARLAN C E LETCHENT C E CHAN		
BLISS, A. C. DILLMAN, O. C. STINE O. E. BAKER O. A. TIME W.	Ť	
SPILIMAN article on "Oats barley rue rice creating southing see	.4	
BLISS, A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. SPILLMAN, article on "Oats, barley, rye, rice, grain sorghums, see flax, and buckwheat"	:u	200
Donong imports detailed	409-	202
Danamas, imports, statistics	952-	979
Barberry, eradication for control of black stem rust of wheat	26	-28
Barley—		
acreage, production and value, by States		632
bushel weights565-	-566.	992
cost of production, discussion	553-	-556
crop—	000	000
	000	200
condition and estimates, by months	032-	
losses, causes and extent, 1909–1922		496
value rank		470
crops of 1920–1922, summary		983
exports, statistics		958
foods, feeds, and feeding		
harvest season		988
introduction and production development		
loss from diseases, 1917–1921	490-	491
market—		400
grades, discussion	497-	498
types	497-	
marketings by farmers, monthly		63-1
planting dates, by States	989.	990
position in American agriculture	565 -	566
prices, farm and market	633-	635
production—		
factors affecting 490,	406	407
importance of crop, etc., discussion	100-	201
importance of crop, etc., discussion	400	200
outlook by States	499-	000
prices, exports, etc., 1849–1922		631
quality variation		498
sood quantity per acre		990
seed-hed requirements and manner of growing		555
atotiatica		
acreage, exports, and production, 1910–1922	39, 70	. 73
production, prices, etc 489-490,	629_	636
	020	000
trade—		100
effect of prohibition		496
international, by countries		636
and distribution discussion	486-	490
har comptaine	045-	COL
Dong tobacco construction and unkeen	428-	429
Barns, tobacco, construction and upkeep	_	998

Beans—	Page.
acreage, production and value, by States	
crops of 1920-1922, summary	984
exports, statistics	
harvest season	988
imports, statistics	
lima, harvest season	988
prices, farm and wholesale, by months, 1910-1922	754, 755, 756
production increase, suggestion	1001
seed, quantity per acre	990
shipments, carlot, by States	
soy. See Soy beans.	
statistics, production, prices, etc	752-756
world acreage and production, by countries	752-754
Beech, lumber production, by States, 1920	925
Beef—	
consumption—	
per capita	182
total and per capita, 1907–1922	810-811
dairy, grades produced	
exports—	-
1910–1922, destination	838
statistics	
imports, statistics	
prices by cuts, Chicago and New York, 1913-1922	830-831
production—	000 001
and per cent of all meats, 1907-1922	809
from discarded dairy stock	
products, exports, 1910–1922	
trade, international, by countries	
Beeswax—	
exports, statistics	955
imports, statistics	
Beet—	020,001
sugar, seed imports, statistics	954
sugar. See Sugar, beet.	001
Beetle—	
Engelmann spruce, distribution	163
Japanese, destructiveness and control work	
tobacco—	
flea, injury and control	423
injury to manufactured tobacco	
Western pine, distribution, damage, and control work	
Beetles, pine, distribution of species	
Beets, sugar—	
crops of 1920–1922, summary	984
seed, quantity per acre	
statistics, production, prices, etc., 1856-1923	778_779
world production, 1909–1922, by countries	786
Bell, W. B., E. Z. Russell, S. S. Buckley, O. E. Baker, C. E. Gi	DDANH
R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE,	G K
Holmes, A. V. Swarthout, G. S. Jamieson, C. W. Warburton	r ond
C. F. LANGWORTHY, article on "Hog production and marketing".	
Berries, statistics of day's work	1072
Binders, statistics of manufacture and sale	1001
Bins, grain, statistics of manufacture and sale	1024
Birch, lumber production, by States, 1920	925
Blackbarriag harroat googan	000
Blackberries, harvest seasonBlackleg vaccine manufacture, discontinuance	988 59
Blister rust, white-pine, distribution and control	09
Blue-grass seed—	28, 109
harvast sagson	988
harvest season	999
quantity per acre	990
Board of Awards, price reductions Boards, exports, statistics	54, 55
Doutes, Capores, Statistics	951, 900

Boil weevil—	7	age.
control work, progress		31
damage to cotton crop, 1909–1920		714
Bollworm pink, control work	2-	L -3 2
Borer, corn, destructiveness and control work		33
Borers, stalk, insect enemies of grain sorghums		530
Bottles, milk, sterilization as health measure		336
Bovine tuberculosis, extent in United States		340
Boys' clubs, work, summary and details		44
Bran—		
buckwheat, feed use		553
prices at Minneapolis, 1916–1922, by months		695
rice, feeding valueBrands—		524
butter, use in selling, note		362
condensed milk, note		364
Brazil nuts, imports, statistics		953
Bread grains, comparison of wheat and rye		507
Breakfast foods, rice		524
Breeding, dairy cattle, discussion	322-	
Breeds—	-	
cattle, percentages in United States in 1920	. 324-	-325
hog, origin and description	. 193-	-194
Brewers, use of barley, annual consumption		490
Broom corn—		
crops of 1920-1922, summary		984
exports, statistics		956
harvest season		988
production, 1917–1922		759
seed quantity per acre		990
statisfics, production, prices, etcBrown Swiss cow, champion butter-fat producer	. 100-	$\frac{-139}{329}$
Buckley, S. S., E. Z. Russell, O. E. Baker, C. E. Gibbons, R. H. Wilc	0.2	OHO
Doubles, D. R., M. M. 1000001111, O. M. Datter, O. M. Olbbotte, 10, 11, 111110		
H W HAWTHORNE S W MENDUM O. C STINE G K. HOLMES, A.	V.	
H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G.	v.	
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G.	V. F.	-280
H. W. Hawthorne, S. W. Mendum, O. C. Stine, G. K. Holmes, A. Swarthott, W. B. Bell, G. S. Jamieson, C. W. Warburton, and G. Langworthy, article on "Hog production and marketing"Buckwheat—	V. F.	-280
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing"Buckwheat—acreage—	V. F. 181	
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. LANGWORTHY, article on "Hog production and marketing"Buckwheat— acreage— production and value, by States	V. F. _ 181	644
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. LANGWORTHY, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States production, yield and price, 1866–1922	V. F. 181	644 -549
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. LANGWORTHY, article on "Hog production and marketing"Buckwheat— acreage— production and value, by States production, yield and price, 1866–1922	V. F. 181	644 -549 559
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States production, yield and price, 1866–1922 cost of production, discussion crop condition and forecast, by months, 1902–1922	V. F. 181	644 -549 559 645
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. LANGWORTHY, article on "Hog production and marketing"	V. F. 181-	644 -549 559 645 983
SWARTHOUT, W. B. BELL, G. S. Jameson, C. W. Warburton, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922———————————————————————————————————	V. F. 181	644 -549 559 645 983 958
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. LANGWORTHY, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922———————————————————————————————————	V. F. 181	644 -549 559 645 983 958
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing"	V. F. 181- 547- 	644 -549 559 645 983 958 -553
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion— crop condition and forecast, by months, 1902–1922— crops of 1920–1923, summary— exports, statistics— food uses— growing— in United States, history—	V. F. 181- 547- 552-	644 -549 559 645 983 958 -553
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion— crop condition and forecast, by months, 1902–1922— exports, statistics— food uses— growing— in United States, history— season, shortness———————————————————————————————————	V. F. 181.	644 -549 559 645 983 958 -553 549 567
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing"	V. F. 181. 547. 552.	644 -549 559 645 983 958 -553 549 567 988
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing"	V. F. 181. 547. 552.	644 -549 559 645 983 958 -553 549 567 988
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion— crop condition and forecast, by months, 1902–1922— crops of 1920–1923, summary— exports, statistics— food uses— growing— in United States, history— season, shortness— harvest season————————————————————————————————————	V. F. 181- 547- 552-	644 -549 559 645 983 958 -553 549 567 988 -547 567
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. LANGWORTHY, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion— crop condition and forecast, by months, 1902–1922— crops of 1920–1923, summary— exports, statistics— food uses— growing— in United States, history— season, shortness— harvest season— importance as a crop, comparisons— position in American agriculture— prices— 1866–1915—changes	V. F. 181.	6444 -549 559 645 983 958 -553 549 567 988 -547 567
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. LANGWORTHY, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion— crop condition and forecast, by months, 1902–1922— crops of 1920–1923, summary— exports, statistics— food uses— growing— in United States, history— season, shortness— harvest season— importance as a crop, comparisons— position in American agriculture— prices— 1866–1915—changes	V. F. 181.	644 -549 559 645 983 958 -553 549 567 988 -547 567
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing"	V. F. 181.	6444 -549 559 645 983 958 -553 549 567 988 -547 567 -549 646
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States	V. F. 181.	644 -549 559 645 983 958 -553 549 567 -549 646 644
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion— crop condition and forecast, by months, 1902–1922— crops of 1920–1923, summary— exports, statistics— food uses— growing— in United States, history— season, shortness— harvest season— importance as a crop, comparisons— position in American agriculture— prices— 1866–1915, changes— on farm, by States and months— production— and value, 1849–1922— discussion	V. F. 181.	6444 -549 559 645 988 -553 549 567 -549 646 644 -553
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing"	V. F. 181. 547. 552. 546. 546. 546. 549.	6444 -549 559 645 988 -553 549 567 -549 646 644 -553 -552
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States_ production, yield and price, 1866–1922 cost of production, discussion— crop condition and forecast, by months, 1902–1922, crops of 1920–1928, summary— exports, statistics— food uses— growing— in United States, history— season, shortness— harvest season— importance as a crop, comparisons— position in American agriculture— prices— 1866–1915, changes— on farm, by States and months— production— and value, 1849–1922— discussion— factors— increase suggestion—	V. F. 181. 547. 552. 546. 547. 546. 547.	6444 -549 559 645 983 958 -553 549 567 -549 646 644 -553 -552 1001
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States	V. F. 181. 547. 552. 546. 547. 546. 549.	6444 -549 5559 645 9838 -553 549 567 -549 646 -553 -552 1001 990
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion———————————————————————————————————	V. F. 181. - 547. - 552. - 546. - 547. - 546. - 547. - 549.	6444 -549 559 983 958 -553 549 567 988 -547 -549 646 -553 -552 1001 990 -552
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion———————————————————————————————————	V. F. 181. - 547. - 552. - 546. - 547. - 546. - 547. - 549.	6444 -549 559 983 958 -553 549 567 988 -547 -549 646 -553 -552 1001 990 -552
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States_ production, yield and price, 1866-1922 cost of production, discussion— crop condition and forecast, by months, 1902-1922— crops of 1920-1923, summary— exports, statistics— food uses— growing— in United States, history— season, shortness— harvest season— importance as a crop, comparisons— position in American agriculture— prices— 1866-1915, changes— on farm, by States and months— production— and value, 1849-1922— discussion—— factors————————————————————————————————————	V. F. 181 547 552 546 547 546 547	644 -549 -549 -549 -553 -567 -549 -546 -553 -552 1001 -552 -552
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WABBURTON, and G. Langworthy, article on "Hog production and marketing" Buckwheat— acreage— production and value, by States— production, yield and price, 1866–1922— cost of production, discussion———————————————————————————————————	V. F. 181 547 552 546 547 546 547	644 -549 -549 -549 -553 -567 -549 -546 -553 -552 1001 -552 -552

1084 Yearbook of the Department of Agriculture, 1922.

Budworn	Budding, fruits, researches	ا.	Page.
tobacco, habits and control			26
tobacco, habits and control	spruce, distribution		163
Buffaloes, world, numbers, by countries.	tobacco, habits and control		423
Buildings, farm, expenses by States 1006	Buffaioes, world, numbers, by countries	- 795-	-801
Bull	Building program for Department	49	9-51
grade, usefulness			1006
pure-bred, usefulness 322, 325 326 326 326 327 - 324 328 328 - 328 328 - 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328 328	Bull—		
Selection as factor in dairying 322-324 Bulletins, Department, new, classified list 76-82 Bulls	grade, usefulness		322
Bulletins, Department, new, classified list 76-82 Bulls—	pure-bred, usefulness	- 322,	325
Bulls- discard, reasons, and quality of meat 389 pure-bred- percentage by States, in 1920	Selection as factor in dairying	- 322	-324
pure-bred—		11	υ~82
percentage by States, in 1920. 325			339
Slaughter as calves, note			225
Burley tobacco, nature, production and uses 409 Bushel, weights for several crops, 1902–1922 992 Butter— and cheese, freight tonnage of railways, 1916–1922 1012 consumption in several countries 28 creamery— marketing methods and practices 36 seasonal cold storage 369 development of production 810, 312–314 Edgin board, suspension 35 exports— and imports for 1909–1921, graph 30 early 302 statistics 955, 909 factories, location in United States 296 factory, production in 1921 314 farm— percentage of total amount 296 production 310, 312–313 freight rates for several routes, 1900–1923 1018 inspection and prices 372–375 market receipts, by months 384–385 movement into cold storage 388 prices— 383–385 in large markets 370–381 method of fixing 381–380 relation to milk prices 385 wholesale and retail, by months <td< td=""><td></td><td></td><td></td></td<>			
Bushel, weights for several crops, 1902–1922 992 Butter— and cheese, freight tonnage of railways, 1916–1922 1012 consumption in several countries 288 creamery— marketing methods and practices 361–362 seasonal cold storage 309 development of production 810, 312–314 Edgin loard, suspension 85 exports— and imports for 1909–1921, graph 302 early 502 statistics 955, 909 factories, location in United States 296 factory, production in 1921 314 farm— 10 percentage of total amount 296 production 310, 312–313 freight rates for several routes, 1900–1923 1018 imports, statistics 940 inspection and prices 372–375 market receipts, by months 847–850 novement into cold storage 368 prices— 368 basis of making 383–355 in large markets 370–381 method of fixing </td <td>Burley tobacco, nature, production and uses</td> <td></td> <td></td>	Burley tobacco, nature, production and uses		
Butter— and cheese, freight tonnage of railways, 1916–1922 1012 consumption in several countries 28 creamery— marketing methods and practices 361–362 seasonal cold storage 309 development of production 810, 312–314 Edgin loard, suspension 855 exports— and imports for 1909–1921, graph 802 early 302 statistics 955, 969 factories, location in United States 296 factories, location in United States 296 factories, location in 1921 314 farm— percentage of total amount 296 production 310, 312–313 freight rates for several routes, 1900–1923 1018 imports, statistics 949 inspection and prices 372–375 market receipts, by months 847–850 novement into cold storage 388 prices— basis of making 381–386 in large markets 370–381 method of fixing 381–386 relation to milk prices <td></td> <td></td> <td></td>			
consumption in several countries 288 creamery— marketing methods and practices 361-362 seasonal cold storage 330 development of production 310, 312-314 Exports— 362 and imports for 1909-1921, graph 302 early 302 statistics 955, 909 factory, production in 1921 314 farm— 296 production in 1921 314 farm— 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 imports, statistics 940 inspection and prices 372-375 market receipts, by months 847-850 movement into cold storage 368 prices— basis of making 383-385 in large markets 370-381 method of fixing 381-380 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, in 122 years 376 wholesale of 22 score product	Butter—		
creamery— marketing methods and practices 361–362 seasonal cold storage 339 development of production 810, 312–314 Eigh board, suspension 355 exports— 365 and imports for 1909–1921, graph 302 early 302 statistics 955, 909 factories, location in United States 296 factory, production in 1921 314 farm— 296 percentage of total amount 296 production 310, 312–313 freight rates for several routes, 1900–1923 1018 imports, statistics 949 inspection and prices 372–375 market receipts, by months 847–830 movement into cold storage 368 prices— 383–385 in large markets 370–381 method of fixing 381–385 relation to milk prices 385 wholesale and retail, by months 845–846 wholesale in New York, 1919–1923 372 wholesale in New York, 1919–1923 </td <td>and cheese, freight tonnage of railways, 1916-1922</td> <td> :</td> <td>1012</td>	and cheese, freight tonnage of railways, 1916-1922	:	1012
marketing methods and practices 361-362 seasonal cold storage 309 development of production 310, 312-314 Eligin board, suspension 85 exports 385 and imports for 1909-1921, graph 802 early 302 statistics 955, 909 factories, location in United States 296 factory, production in 1921 314 farm 296 percentage of total amount 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 imports, statistics 940 inspection and prices 372-375 market receipts, by months 847-850 novement into cold storage 368 prices 368 basis of making 383-385 in large markets 370-381 method of fixing 381-386 relation of interrupted transportation 388 relation to milk prices 355 wholesale, and storage movement 371 wholesale, in 122 years 372 who	consumption in several countries		288
seasonal cold storage 30 development of production 310, 312-314 Eigh board, suspension 385 exports— and imports for 1909-1921, graph 302 early 502 statistics 955, 969 factories, location in United States 296 factory, production in 1921 314 farm— percentage of total amount 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 imports, statistics 910 movement and prices 372-375 market receipts, by months 847-850 movement into cold storage 368 prices— 383-385 in large markets 379-381 method of fixing 381-386 relation of interrupted transportation 380 relation to milk prices 385 wholesale, and storage movement 371 wholesale, in 122 years 372 wholesale, in 122 years 373 wholesale, in 122 years 376 by months 368 and receipts at princ			
development of production 310, 312-314 Eight board, suspension 355 exports— and imports for 1909-1921, graph 392 early 505, 909 factories, location in United States 296 factory, production in 1921 314 farm— 296 percentage of total amount 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 insports, statistics 940 inspection and prices 372-375 market receipts, by months 847-850 movement into cold storage 368 prices— 368 basis of making 383-385 in large markets 370-381 method of fixing 381-386 relation of interrupted transportation 385 wholesale and retail, by months 845-846 wholesale in New York, 1919-1923 372 wholesale in New York, 1919-1923 372 wholesale of 92 score product 378 production— 360 and receipts at principal markets 367 by month			
Eligin board, suspension 385 exports— and imports for 1909-1921, graph 302 early	seasonal cold storage		369
exports— and imports for 1909–1921, graph early	development of production310), 312	
and imports for 1909-1921, graph 302 early 302 statistics 955, 969 factories, location in United States 296 factory, production in 1921 314 farm— percentage of total amount 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 imports, statistics 949 inspection and prices 372-375 market receipts, by months 847-850 movement into cold storage 368 prices— basis of making 383-385 in large markets. 379-381 method of fixing 381-386 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale in New York, 1919-1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 wholesale, in 122 years 376 wholesale, sat principal markets 385 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 375 shipment forms 365 statistics 845-851 storage holdings 855			385
early			909
statistics 955, 969 factories, location in United States 296 factory, production in 1921 314 farm— 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 insports, statistics 949 inspection and prices 372-375 market receipts, by months 847-850 movement into cold storage 368 prices— 388-385 basis of making 381-386 relation of fixing 381-386 relation of interrupted transportation 380 relation to milk prices 355 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale in New York, 1919-1923 372 wholesale of 92 score product 378 production— 360 and receipts at principal markets 367 by months 367 in United States 292, 293 in crease, suggestion 1001 quality, in relation to demand and prices			
factories, location in United States 296 factory, production in 1921 314 farm—			
factory, production in 1921 314 farm— percentage of total amount 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 imports, statistics 940 inspection and prices 372-375 market receipts, by months 847-850 movement into cold storage 368 prices— 383-385 basis of making 381-386 relation of interrupted transportation 380 relation of interrupted transportation 380 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale in New York, 1919-1923 372 wholesale in 122 years 376 wholesale of 92 score product 378 production— 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 373 <	factories, location in United States	- 000;	
percentage of total amount 296 production 310, 312-313 freight rates for several routes, 1900-1923 1018 imports, statistics 949 inspection and prices 372-375 market receipts, by months 847-850 movement into cold storage 388 prices— basis of making 383-385 in large markets 379-381 method of fixing 381-386 relation of interrupted transportation 380 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale, in 122 years 376 wholesale in New York, 1919-1923 372 wholesale of 92 score product 378 production— and consumption, by seasons 366 and receipts at principal markets 367 by months 387 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 365 statistics 845-851 storage holdings 585			
production 310, 312–318 freight rates for several routes, 1900–1923 1018 imports, statistics 949 inspection and prices 372–375 market receipts, by months 847–850 movement into cold storage 368 prices— 383–385 basis of making 381–386 in large markets 379–381 method of fixing 381–386 relation to milk prices 385 wholesale and retail, by months 845–846 wholesale and retail, by months 845–846 wholesale, in New York, 1919–1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 production— and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 372 statistics 845–851 <	farm—		
freight rates for several routes, 1900-1923 1018 imports, statistics 949 inspection and prices 372-375 market receipts, by months 847-850 novement into cold storage 368 prices— 368 basis of making 383-385 in large markets 379-381 method of fixing 381-386 relation of interrupted transportation 380 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale, in New York, 1919-1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 production— 366 and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 372 statistics 845-851 storage holdings 845-85	percentage of total amount		
imports, statistics 949 inspection and prices 372-375 market receipts, by months 847-850 movement into cold storage 368 prices 383-385 in large markets 379-381 method of fixing 381-386 relation of interrupted transportation 380 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale, in New York, 1919-1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 production 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 372 shipment forms 362 statistics 845-851 storage holdings 845	production 310), 312	
inspection and prices			
market receipts, by months			
maovement into cold storage			
prices— basis of making	market receipts, by months	. O+1.	
basis of making 383-385 in large markets 379-381 method of fixing 381-386 relation of interrupted transportation 380 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale in New York, 1919-1923 372 wholesale in 122 years 376 wholesale of 92 score product 378 production— and consumption, by seasons 366 and receipts at principal markets 367 by months 55 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 379-381			500
in large markets		383	-385
method of fixing 381–386 relation of interrupted transportation 380 relation to milk prices 385 wholesale and retail, by months 845–846 wholesale, and storage movement 371 wholesale in New York, 1919–1923 372 wholesale in 122 years 376 wholesale of 92 score product 378 production— 367 and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845–851 storage holdings 845			
relation of interrupted transportation 380 relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale in New York, 1919-1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 production— 366 and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 845			
relation to milk prices 385 wholesale and retail, by months 845-846 wholesale, and storage movement 371 wholesale in New York, 1919-1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 production— 366 and consumption, by seasons 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 845	relation of interrupted transportation		
wholesale, and storage movement 371 wholesale in New York, 1919–1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 production— 378 and consumption, by seasons 366 and receipts at principal markets 367 by months 53 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845–851 storage holdings 845	relation to milk prices		
wholesale in New York, 1919–1923 372 wholesale, in 122 years 376 wholesale of 92 score product 378 production— 366 and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845–851 storage holdings 845			
wholesale, in 122 years 376 wholesale of 92 score product 378 production— and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845–851 storage holdings 845	wholesale, and storage movement		
wholesale of 92 score product 378 production— and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 851	wholesale in New York, 1919–1923		
production— and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 845	wholesale, in 122 years		
and consumption, by seasons 366 and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 851			378
and receipts at principal markets 367 by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 851			266
by months 853 in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 851	and receipts at principal markets		
in United States 292, 293 increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 851	hy months		
increase, suggestion 1001 quality, in relation to demand and prices 372 season of largest production 375 shipment forms 362 statistics 845-851 storage holdings 551	in United States	292	
quality, in relation to demand and prices	increase, suggestion		
Season of largest production	quality, in relation to demand and prices		
shipment forms	season of largest production		
storage holdings 851	shipment forms		362
			-851
tarist rates, 1824-1922	storage holdings		
temperature for nothing in storage	tariff rates, 1824-1922	_ 589	-390
	temperature for nothing in storage		506

Butter—Continued.	Page.
trade, internationalwholesale and jobbing trades, distinction	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
By-products—	
buckwheat, use as feed	553
rye, feed valuetobacco, utilization	510-511
tobacco, utilization	454
Cabbage—	
acreage and production, by States	763
crops of 1920–1922, summaryfreight rates for several routes, 1900–1923	984 1018
harvest season	988
harvesting, statistics of day's work	1072
plants, quantity per acre	990
prices, 1910–1922, by monthsshipments, car lot by States	763-764
statistics, production, prices, etc	764 763–764
California—	
citrus fruits, production and value	745-747
cold-storage space, 1922	
cooperative creameriesdurra introduction	
farm—	021
expenses	. 1005, 1006, 1007
mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920 farmer's food supply, sources	1009
farms, classification by size	1008
food supply of farm, sources	7000
forest fires, causes, size, damage, and area, 1921	933, 939
fruits and nuts, production and pricesgram sorghum, acreage, etc., 1972	747
	Júd, Júd 8
growing	567
introduction	518
production, 1919wages on farm, 1913 and 1922	517
Calves—	996
bull, from dairy, quality and usefulness	339
dairy, use in veal production	338
prices on farm, by months and by States	822, 824, 830
relation to dairyingslaughter under inspection	283
weight, live and dressed	903
See also cattle.	
Campbor, imports, statistics	951, 968
Canada— barley growing, increase	500
flaxsed production and exports	533-535
pork exports	253, 273
Canal, Frie, relation to dairying	304
acreage and production, by States.	701 700
mills, statistics of manufacture and sale	1026
Canker, flax, injury to crop, and control	
Canned—	
goods— food products, freight tonnage of railways, 1916-1922_	4040
production increase, suggestion	
milk. See Milk, condensed.	LVVL
Cantaloupes-	
harvest season	988
shipments, car lot, by States	773
CHARGE WEIGHT IN THE COURT OF T	

and calves, freight tonnage of railways, 1916-1922 1012 dairy— lreeding in United States. 329-324 feeding and feed crops. 313-335 feeding and feed crops. 333 pasture as best source of feed. 3339 production. 319-324 testing and registration. 319-324 testing and registration. 320-82 exports— and prices, 1896-1922 statistics. 355, 962, 939 first landings in United States, note. 391 following by hogs, to save waste feed. 204 freight rates for several routes, 1900-1923 1016 imports— and prices, 1896-1922 \$18-819 statistics. 949, 977 introduction in West by friars. 302 losses from disease and exposure, 1800-1923 \$20 marker receipts and shipments. 383-834 number and value, 1870-1923, by States. 321-824 prices— by ages and classes— by ages and classes. 918 comparison with hogs and lambs, 1013-1922, graph 212 farm and market 518-831 numbers, by breeds and States. 324-832 numbers, by breeds and States. 326 percentages of breeds in United States in 1920. 324-325 sate as source of profit in dairying. 234 shipments, cooperative, losses, shrinkage, etc. 338-841 situation, monthly. 318-825 state as source of profit in dairying. 234 stituation, monthly. 318-83 testing for tubercalosis, remarks. 341 tileks, eradication and cure of fever. 342, 341 tileks, eradication and cure of fever. 342, 341 tileks, eradication and cure of fever. 342, 341 tileks, eradication and cure of fever. 342, 341 tileks, eradication and cure of fever. 342, 341 tileks, eradication and cure of fever. 342, 341 tilekencolosis, cremarks. 341 tileks, eradication and cure of fever. 342, 341 tilekencolosis, cremarks. 341 tileks, eradication and cure of fever. 342, 341 tilekencolosis, cremarks. 341 tileks, eradication and cure of fever. 342, 341 tilekencolosis, cremarks. 341 tileks, eradication and cure of fever, 342, 341 tilekencolosis, cremarks. 343 testing for tubercalosis, remarks. 341 tileks, eradication and cure of fever, 342, 343 tilekencolosis control. 342 cereal— foods, exports, statistics. 342 tode-calcy, application of ferm. 340 Cedan, lumber producti	Cattle-	Page.
breeding in United States	and calves, freight tonnage of railways, 1916-1922	_
feeding discoveries	breeding in United States	322_224
feeding discoveries	feeding and feed crops	331_335
Inspection	feeding discoveries	335
production 319 329	inspection	330
tesing and registration	pasture as best source of feed	339
and prices, 1896–1922	production	319-324
and prices, 1896–1922	testing and registration	329
statistics 955, 902, 908 first hundings in United States, note 301 following by hogs, to save waste feed 204 freight rates for several routes, 1900–1923 1016 imports— 302 and prices, 1896–1922 818–819 statistics 949, 977 introduction in West by friars 302 losses from disease and exposure, 1800–1923 820 marker receipts and shipments 83–834 number and value, 1870–1923, by States 913 comparison with hogs and lambs, 1913–1922, graph 242 farm and market 818–831 increase 11 pure-bred— dairy, discussion 324–335 dairy, discussion 324–335 numbers, by breeds and States 326 percentages of breeds in United States in 1920 324–325 sale as source of profit in dairying 224 shipments, cooperative, losses, shrinkage, etc 388–841 situation, monthly 331–832 statistics, 1896–1922 818–845 statistics, 1896–1922 818–845	exports—	04.0
first landings in United States, note	and prices, 1880-1922	818
following by hogs, to save waste feed	frat landings in United States note	_ 955, 962, 969
freight rates for several routes, 1900–1923 1016 imports—	following by hogs to save waste feed	201
imports—	freight rates for several routes 1900-1923	1010
and prices, 1896–1922		1010
Statistics	and prices, 1896–1922	818-819
introduction in West by friars	statistics	949, 977
losses from disease and exposure, 1890–1923 820 market receipts and shipments. 833–834 number and value, 1870–1923, by States 821–824 prices— by ages and classes 913 comparison with hogs and lambs, 1913–1922, graph 242 farm and market 818–831 increuse 11 pure-bred dairy, discussion 324–331 numbers, by breeds and States 326 percentages of breeds in United States in 1920 324–325 sale as source of profit in dairying 234 shipments, cooperative, losses, shrinkage, etc 838–841 situation, monthly 831–832 slaughter under inspection 913 statistics, 1896–1922 818–845 stockyards— receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 913 receipts and shipments 914 receipts and shipments 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipts 915 receipt	introduction in West by friars	302
marker receipts and shipments	losses from disease and exposure, 1890–1923	820
number and value, 1870–1923, by States	market receipts and shipments	833-834
by ages and classes	number and value, 1870–1923, by States	821-824
farm and market \$18-\$31 increase 11 pure-bred— dairy, discussion— 324-331 numbers, by breeds and States 326 percentages of breeds in United States in 1920 324-325 sate as source of profit in dairying 284 shipments, cooperative, losses, shrinkage, etc 338-841 situation, anothly 831-832 slaughter under inspection 913 statistics, 1896-1922 818-845 stockyards— receipts and shipments receipts and shipments, monthly 834-836 testing for tuberculosis, remarks 341 ticks, eradication and cure of fever 342, 343 tiberculosis control 29-30 weight, live and dressed 903 world, numbers by countries 795-801 Cedar, lumber production, by States 771 Centennial Exposition, sorghums exhibit 527-528 Cereal— 6 foods, exports, statistics 95 grains, food value 471 "Cereals," application of term 40 Cham	prices—	
farm and market \$18-\$31 increase 11 pure-bred— dairy, discussion— 324-331 numbers, by breeds and States 326 percentages of breeds in United States in 1920 324-325 sate as source of profit in dairying 284 shipments, cooperative, losses, shrinkage, etc 338-841 situation, anothly 831-832 slaughter under inspection 913 statistics, 1896-1922 818-845 stockyards— receipts and shipments receipts and shipments, monthly 834-836 testing for tuberculosis, remarks 341 ticks, eradication and cure of fever 342, 343 tiberculosis control 29-30 weight, live and dressed 903 world, numbers by countries 795-801 Cedar, lumber production, by States 771 Centennial Exposition, sorghums exhibit 527-528 Cereal— 6 foods, exports, statistics 95 grains, food value 471 "Cereals," application of term 40 Cham	by ages and classes	913
increase	comparison with hogs and lambs, 1913–1922, graph	242
Dure-bred		
dairy, discussion		11
numbers, by breeds and States 326 percentages of breeds in United States in 1920 324-325 sale as source of profit in dairying 284 shipments, cooperative, losses, shrinkage, etc 838-841 situation, monthly 831-832 slaughter under inspection 913 statistics, 1896-1922 818-845 stockyards— receipts and shipments 913 receipts and shipments, monthly 834-836 testing for tuberculosis, remarks 341 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 342, 343 ticks, eradication and cure of fever 352, 343 <	pure-pred—	204 004
percentages of breeds in United States in 1920	marshane by broade and Ctatus	200
sale as source of profit in dairying 284 shipments, cooperative, losses, shrinkage, etc 838-841 situation, monthly 831-832 slaughter under inspection 913 statistics, 1896-1922 818-845 stockyards— receipts and shipments 913 receipts and shipments, monthly 834-836 testing for tuberculosis, remarks 341 ticks, eradication and cure of fever 342, 343 tuberculosis control 29-30 weight, live and dressed 903 world, number by countries 755-801 Cedar, lumber production, by States, 1920 922 Celery, shipments, carlot, by States 771 Centennial Exposition, sorghums exhibit 527-528 Cereal— 600s, exports, statistics 958 grains, food value 471 "Cereals," application of term 469 CHAMBLISS, C. E., A. C. DILIMAN, O. C. STINE, O. E. Baker, O. A. Juve, W. J. SPILLMAN, C. R. BAIL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat "	numbers, by breeds and States	994 995
Shipments, cooperative, losses, shrinkage, etc	galo as source of profit in deleving	020 -12 00
situation, _monthly	shipments cooperative losses shrinkups etc	838_841
slaughter under inspection 913 statistics, 1896–1922 818–845 stockyards— receipts and shipments 913 receipts and shipments, monthly 834–836 testing for tuberculosis, remarks 341 ticks, eradication and cure of fever 342, 343 tuberculosis control 29–30 weight, live and dressed 903 world, numbers by countries 795–801 Cedar, lumber production, by States, 1920 922 Celery, shipments, carlot, by States 1920 922 Celery, shipments, carlot, by States 771 Centennial Exposition, sorghums exhibit 527–528 Cereal— foods, exports, statistics 958 grains, food value 471 "Cereals," application of term 469 CHAMBLISS, C. E., A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469–568 Cheese— American, marketing, remarks 9363 boards, relation to making of cheese prices 985 consumption in several countries 289 exports— and imports for, 1909–1921, graph 392 early— and imports for, 1909–1921, graph 392 early— statistics— factories, location in United States— 296 factory, production in 1921— 311	situation monthly	831-839
statistics, 1896–1922	slaughter under inspection	913
receipts and shipments, monthly	statistics, 1896–1922	818-845
receipts and shipments	stockvards—	
testing for tuberculosis, remarks	receipts and shipments	913
ticks, eradication and cure of fever	receipts and shipments, monthly	834-836
tuberculosis control weight, live and dressed world, numbers by countries Cedar, lumber production, by States, 1920 Celery, shipments, carlot, by States Cereal— foods, exports, statistics— foods, exports, statistics— foods, exports, statistics— foods, exports, statistics— Cereals," application of term— CHAMBLISS, C. E., A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat"— American, marketing, remarks— American, marketing, remarks— and imports for, 1909—1921, graph— early— statistics— factories, location in United States— factory, production in 1921— 311	testing for tuberculosis, remarks	341
weight, live and dressed 903 world, numbers by countries 795-801 Cedar, lumber production, by States, 1920 922 Celery, shipments, carlot, by States 771 Centennial Exposition, sorghums exhibit 527-528 Cereal— foods, exports, statistics 958 grains, food value 471 "Cereals," application of term 469 CHAMBLISS, C. E., A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469-568 Cheese— American, marketing, remarks 363 boards, relation to making of cheese prices 385 consumption in several countries 289 exports— 302 statistics 955 factories, location in United States 296 factory, production in 1921 311	ticks, eradication and cure of fever	342, 343
world, numbers by countries		
Cedar, lumber production, by States, 1920		
Celery, shipments, carlot, by States	world, numbers by countries	
Centennial Exposition, sorghums exhibit	Cedar, lumber production, by States, 1920	
Cereal— foods, exports, statistics 958 grains, food value 471 "Cereals," application of term 469 CHAMBLISS, C. E., A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469-568 Cheese— 363 boards, relation to making of cheese prices 385 consumption in several countries 289 exports— 302 statistics 955 factories, location in United States 296 factory, production in 1921 311	Contouried Expectation gardenmy exhibit	
foods, exports, statistics		021-020
grains, food value	foods exports statistics	958
"Cereals," application of term		
CHAMBLISS, C. E., A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat"		
W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN, C. E. LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469-568 Cheese— American, marketing, remarks 363 boards, relation to making of cheese prices 385 consumption in several countries 289 exports— and imports for, 1909-1921, graph 392 early 302 statistics 955 factories, location in United States 296 factory, production in 1921 311	CHAMBLISS, C. E., A. C. DILLMAN, O. C. STINE, O. E. BAKER, O. A.	. Juve.
Leighty, article on "Oats, barley, rye, rice, grain sorghums, seed flax, and buckwheat"	W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HARLAN,	. C. E.
Cheese— American, marketing, remarks 363 boards, relation to making of cheese prices 385 consumption in several countries 289 exports— 392 early 302 statistics 955 factories, location in United States 296 factory, production in 1921 311	LEIGHTY, article on "Oats, barley, rye, rice, grain sorghums, see	ed flax,
American, marketing, remarks 363 boards, relation to making of cheese prices 385 consumption in several countries 289 exports 392 early 302 statistics 955 factories, location in United States 296 factory, production in 1921 311	and buckwheat "	469–568
boards, relation to making of cheese prices	Cheese—	
consumption in several countries 289 exports 392 and imports for, 1909–1921, graph 302 statistics 955 factories, location in United States 296 factory, production in 1921 311		
exports— 392 and imports for, 1909–1921, graph 392 early— 302 statistics 955 factories, location in United States 296 factory, production in 1921— 311		
and imports for, 1909–1921, graph		289
early	exports—	900
statistics 955 factories, location in United States 296 factory, production in 1921 311		
factories, location in United States		~~~
factory, production in 1921 311		
The graduation of the second s		

Cheese—Continucd.			rage
imports, statistics	949. 9	965	. 97
improvement by storage		_	36
naking—			
cooperation, early, in New York, note			31
development of industry		207.	_21.
market receipts, by months	6	251	954
movement into cold storage	C	oot.	-368
prices—		-	500
			0=
at New York, by months			853
basis for making		385	-386
in large markets	5	379-	-38
method of fixing	3	381-	-386
production—			
by months			85
in United States	2	292.	29:
increase, suggestion			100
protection from freezing			356
quality, in relation to demand and prices		•	372
seasonal cold storage		•	369
statistics, 1910-1922		59	000 055
storage holdings, 1916–1922, by months	C	999-	
torage norungs, 1910–1922, by months			857
tarıfı rate, 1789–1922	ð	89-	-390
tade-			~~-
international, by countries			857
with several countries	3	91-	
warehouse system of handling			356
Chestnut—			
blight disease, distribution.	1	.64-	-163
lumber, production by States, 1920			924
Thick-to-			
hogs, weight monthly, 1913-1922, graph		_	23
sarket center for dairying, note		-	300
taeat-packing industry, development			230
Shickens-		•	J. 60 (
prices on farm, 1909-1922, by months			863
world, numbers, by countries			
(See also Poultry.)	0	02-	-005
Thicle, imports, statistics			0=1
			951
Thilo plejadellus, habits			519
hina-			
grain sorghums, production and uses	5	25,	527
rice production	5	13,	514
Thinese mut oil, imports, statistics			953
Thloridea virescens, injury to tobacco and control			423
'hocolate			
exports, statistics	9i	56.	961
imports, statistics9	50. 90	61.	965
Cholera, hog, losses and control	2	15	217
'igarettes—			
production, growth of industry	45	79	151
production, growth of industry	TE	50 50	オジエ
production increase, 1881–1921			
ligar-leaf tobacco, nature, production, and uses			
igars, production, increase			
finchona bark, imports, statistics			951
Incinnati, hog-packing center, development irculars, Department, new, classified list	22	29-	230
irculars, Department, new, classified list		76	-82
Sitrus fruits, statistics, production, prices, etc	74	£5–′	747
ivil War-			
effect on hog market	18	39-:	190
effect on hog prices		- 4	243
relation to dairying			310
LAPP, EARLE H., W. B. GREELEY, HERBERT A. SMITH, RAPHAEL ZON, W	' N	•	
SPARHAWK, WARD SHEPARD, and J. KITTREDGE, Jr., article on "Timb	har.		
Mine on one 22	oer.	29 -	120
Mine or crop?"	0	,	ı.OU

Toomerage wood concumnti-

Index.

Cooperation—	Page.
creamery, remarks	362
forest protection	35, 36, 39
marketing of hogs	237-241, 265-267
tobacco marketing, practices and advantages	439-442
Cooperative associations, marketing benefits to farmers	9, 12
Copal, imports, statistics	951
Cork, imports, statistics	951, 961
Corn—	
acreage-	
in Southwestern States	526
production, and value, by States, 1920-1922	
and rice, by-products for fattenng hogs	524
and rye, fattening hogs with	500 500
area occupied by————————————————————————————————————	562, 563
Belt, hog industry, development, 1812-1920	187-192
borer, destructiveness and control work	33
canned, production, 1905-1922, by States	701-104
comparison with grain sorghums	020-050, 051
crop	573
condition, by months, 1902–1922	
losses and causes, 1909–1921	
relation to hog production	212
relation to hog production, 1919, graph	
value rank	
crops of 1920–1922, summary	
Egyptian, introduction in 1874equivalent of 100 pounds gain in pork	
exports, statistics	058 968 978
feed—	500, 500, 510
for hogs, comparison with barley	499
for hogs, comparison with partey	485
freight—	
rates for several routes, 1000–1923	1014
tonnage of railways, 1916–1922	
harvest season	
imports, statistics	
inspection and grading, 1917-1922	580
Jerusalem, introduction in 1874	
more released	
price, 1890–1922	576
receipts and shipments, 1910-1922	578–579
marketing—	
in form of hogs	182, 188
monthly by farmers, 1917-1922	575
meal, exports, statistics	959, 963
planting dates, by States	989
position in American agriculture, remarks	301, 302
prices—	260
and hog prices, relation to hog receipts, graph	
at foreign markets, 1912–1922	
farm, by months, 1908–1922	
production— and distribution, 1897–1922	573
1885–1920, and hogs packed following year	
forecast, monthly, 1912–1922	
increase, suggestion	
map, 1919	
rice. See Milo.	
seed, quantity per acre	990
statistics -	
acreage, exports, and production, 1910–1922	69, 70, 73
seresce viold prices etc	569–580
of days work, in several operations	1000-1009
supplies, by months, 1909–1922	579
two do server in the management of the server is a ser	

Corn—Continued.	Page.
usefulness in dairy feeding	324
world production, by countries	569_570
yield, prices, and acre value, by States, 1913-1922	574
Cotton—acreage and production, 1913-1922, by States	710
area occupied bycouncil, composition and work	* :-
erop—	16
condition and forecasts, 1901–1922, by months	719.719
losses, causes and extent, 1909–1921	
value rank	470
crops of 1920–1922, summary	983
exports, statistics	957, 961, 963, 972
farms, hog production	206–208
freight—	
rates for several routes, 1900–1923	1015-1016
tonnege of railways, 1916-1922	
harvest season	988
imports, statistics	951, 961, 979
loss from boll weevil, 1909–1921	714
marketings by fariners, 1912-1922, by months	715
planting dates, by States	989, 990
position in American agriculture	
price mcreaseprices, farm and market	772 775 700
production, value and exports, 1866–1922	715, 715, 720
seed, quantity per acre	990
standards for grade and color, revision	20
statistics—	
acreage, exports, and production, 1910-1922	69, 72, 74
of day's work in several operations	1062-1066
production, prices, etc	708-721
trade, international, by countries	
world production and acreage, 1910-1923, by countries	708–711
yield and acre value, by States	713
Cottonseed—	
exports, statistics	960
infestation with pink bollworm, interception by inspector_	32
meal— prices at 17 markets	207
prices at 17 marketsprices at Memphis, 1910–1923, by months	697 696
oil—	090
exports, statistics	959 964 974
international trade, by countries	
prices at New York, by months	
production, uses and exports	
prices on farm, 1910-1922, by months	721
production and value by States, 1918-1922	721
Cottonwood, lumber production, by States, 1920	
Councils, commodity and regional, nature and object	15–17
Cow, dairy—	001 004
place in economic development of United States	
production average, noterations in feeding	
Cowpeas—	334
prices, by months	756
seeding, quantity per acre	990
usefulness in dairy feeding	334
See also Peas.	
Cows-	
dairy—	
champion butter-fat producers, by breeds	328-331
discard, reasons	338
efficiency as factor in profits	319–322

Cows—Continued.	
dairy—continued.	Pag
numbers in relation to population, 1850–1920	_ 315-31
numbers in United States	_ 315–31
milch, numbers in several sections, 1850–1920	_ 298–30
milk, number and value, 1870–1923	_ 819-82
Cranberries—	
crops of 1920–1922, summary	
harvest season	98
statistics, acreage, production and valueCream separators, statistics of manufacture and sale	74 102
Greameries, types in United States	261_2 <i>6</i>
Credit, farm—	- 901-90
improvement in conditions	1
legislation needed	14_1
Cribs, corn, statistics of manufacture and sale	102
Crop—	
production, cost estimation, remarks	55
reporting service	
Crops	•
acreage averages by States, 1920-1922	98
area occupied by corn, wheat, hay, and cotton severally	_ 562, 56
grain, potatoes, forage, tobacco, cotton, fruits, and other leading	ing
kinds, summaries, 1920–1922	_ 983–98
growth, relation to day's length	2
hogging down, advantages	182, 20
positions and cropping systems	_ 560-56 99
prices, index numbersstatistics, acreage, exports, and production, 1910–1922	99 60 7
ten important, value per acre	0 <i>5</i> -1
value comparisons by States, 1919–1922	98
value, comparison of 11 principal	
yields and conditions per acre, composite	99
Cross-ties, timber consumption	10
Cuba, demand for American pork products	_ 251, 27
Cultivators, statistics of manufacture and sale 1023.	1024, 102
Curing, tobacco, methods, development, and relation to type	406-40
Currants, imports, statistics	952, 96
Cut-over forests, settlement, etc	86-8
Cypress, lumber production, by States, 1920	92
The inve	
Dairy— by-product of meat from old stock and calves	338
cattle—	000
inspection	339
numbers, 1920	316
See also Cattle.	
centers, 1919	318
cow, improvement by importations and care	307
See also Cows.	
farms—	202 204
hog production	208-209
sanitary improvement industry, article by C. W. Larson, L. M. Davis, O. A. Juve, O.	336
industry, article by C. W. Larson, L. M. Davis, O. A. Juve, O.	001 904
Stine, A. E. Wight, A. J. Pistor, and C. F. Langworthy	201-094
products-	279 979
classes, grades and inspectioncomparison between several, illustration	925
consumption in several countries, discussion	
control by laws	337
economic status as food	286
export trade discussion	391-394
avaarta atatiatias	955, 961
geography of production	295-297
imports statistics	949, 961

Dairy—Continued.	
products—Continued.	Page.
inspection and grading	871-375
marketing, discussion	351-275
prices, discussion	875-386
prices, method of fixing	996 599
market from color is 1010	00T-290
receipts from sales in 1919	318
relation of tariff	389–390
storage reports, monthly and daily	371
value for 1810	305
value on farm, comparisons	282
values for period, 1839–1909	±0±
values for period, 1999-1999	309-309
sanitation, discussion	335–337
Dairying—	
by-product from old cows and from calves	284
commercial districts, graphic statement	318
development in United States	997_210
exports, first statistics in United States	
importance, discussion, with eight reasons	281-284
losses from tuberculosis	340
marketing organizations, cooperative feature	386-389
prices, advantage of uniformity	
profits, relation to efficiency of cows	
	010-022
relation—	
of Erie Canal	304
to New England and New York farming	
stability as a business	283
Dairymen's League, milk producers for New York City, relation to	mille
marketing	990 900
Pates, imports, statistics	992, 967
DAVIS, L. M., O. A. JUVE, O. C. STINE, A. E. WIGHT, A. J. PISTOR,	C. F.
	4304 60.4
LANGWORTHY, C. W. LARSON, article on "The dairy industry"	281-394
LANGWORTHY, C. W. LARSON, article on "The dairy industry"	
LANGWORTHY, C. W. LARSON, article on "The dairy industry"	
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	1019
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk	1019
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm—	1019 346, 347, 348
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm—	
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	1019 346, 347, 348 5, 1006, 1007
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses 100 mortgage debt operators, nativity	1019 346, 347, 348 5, 1006, 1007 1004 1003
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	1019 346, 347, 348 5, 1006, 1007 1004 1003 1009
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses 100 mortgage deht operators, nativity population, lands, etc., in 1920 farmer's food supply, sources	5, 1006, 1007 5, 1006, 1007 1004 1003 1009 1009 1000
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses 100 mortgage debt operators, nativity population, lands, etc., in 1920 farmer's food supply, sources farms, classification by size	1019 346, 347, 348 5, 1006, 1007 1004 1003 1009 1009 1000 1008
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007 1004 1003 1009 1000 1008 1000 932, 936 1002 996 253, 273
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922 dairying, cost of keeping cow and producing milk farm— expenses	5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	546. 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Delaware— cold storage space, 1922	546, 347, 348 5, 1006, 1007
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Delaware— cold storage space, 1922	546, 347, 348 5, 1006, 1007
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Delaware— cold storage space, 1922	546, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Delaware— cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
Langworthy, C. W. Larson, article on "The dairy industry" Cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007
LANGWORTHY, C. W. LARSON, article on "The dairy industry" Cold storage space, 1922	1019 346, 347, 348 5, 1006, 1007

District of Columbia—Continued.

District of Columbia—Continued.	70
farm—continued.	Page.
operators, nativity population, lands, etc., in 1920	1003
farms, classification by size	
Diversification, crops, relation to hog industry in Sou	
Dressed meats, freight tonnage of railways, 1916–199	
Dried milk—	MARLE LULE
use and marketing	365
See also Milk, condensed.	
Drills, statistics of manufacture and sale	1023
Ducks, world, numbers by countries.	S02-803
Duroc-Jersey hog, origin and characteristics	194, 196
Durra, introduction in 1874	527
Dyewoods, imports statistics	951, 96 1
Economics—	
Home, proposed new bureau	
research work, consolidation in one bureau	
Economy, record of Department for year	53-60
Education, graduate school for workers in Department	at 30
Eggs—	0 2 2 0 0 0
exports, statistics	955, 961
freight—	1010
rates for several routes, 1900–1923tonnage of railways, 1916–1922	
imports, statistics	
market receipts, by months	980 989
prices, farm and market, 1909–1922	200-002
production increase, suggestion	1001
statistics, 1909–1922	858_863
storage holdings, by months	863
Egypt, talari exchange rates, 1912-1921	
Elevators, farm, statistics of manufacture and sale	1026
Elgin butter board, note	385
Elm, tumber production, by States, 1920	
Engines, farm, statistics of manufacture and sale	1026
England—	
sterling exchange rates, 1912–1922	1010
wheat prices, 1259-1921	605, 606
Ensilage, cutters, statistics of manufacture and sale	
Epitrix parvula, injury to tobacco and control	
Equipment, Department, exchange and utilization	
Eric Canal, relation to dairying, note Ergot, rye, losses in 1917–1921, and danger to stock	
Europe—	509
	501
rye production and consumption, 1910–1914	
rye production and consumption, 1910–1914 western, flaxseed imports and use	
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. See Milk, condensed.	535
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. See Milk, condensed. Evaporators, statistics of manufacture and sale	535 1027
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. Sec Milk, condensed. Evaporators, statistics of manufacture and sale Exchange, foreign rates, 1912–1922 Exhibits. Department, work of 1922	535
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. Sec Milk, condensed. Evaporators, statistics of manufacture and sale Exchange, foreign rates, 1912–1922 Exhibits. Department, work of 1922	535
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. See Milk, condensed. Evaporators, statistics of manufacture and sale fixchange, foreign rates, 1912–1922	535
rye production and consumption, 1910–1914	535
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. See Milk, condensed. Evaporators, statistics of manufacture and sale Exchange, foreign rates, 1912–1922 Exhibits, Department, work of 1922 Expenditures, Agricultural Department, 1922 Exports— agricultural— decrease———————————————————————————————————	535
rye production and consumption, 1910–1914	535 1027 1010 46,59 62,63,66-68
rye production and consumption, 1910–1914	535 1027 1010 1010 46, 59 62, 63, 66-68
rye production and consumption, 1910–1914	535 1027 1010 1010 46, 59 62, 63, 66-68 62, 63, 66-68 555-964, 968, 970-976, 982 631-958
rye production and consumption, 1910–1914 western, flaxseed imports and use. Evaporated milk. See Milk, condensed. Evaporators, statistics of manufacture and sale. Exchange, foreign rates, 1912–1922 Exhibits, Department, work of 1922. Expenditures, Agricultural Department, 1922. Experts— agricultural— decrease increase, 1921 products, statistics beef, statistics.	535 1027 1010 1010 46, 59 62, 63, 66-68 62, 63, 66-68 63, 66-68 64, 66, 970-976, 982 631-958 956, 962, 970
rye production and consumption, 1910–1914 western, flaxseed imports and use	535 1027 1010 46, 59 62, 63, 66-68
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. Sec Milk, condensed. Evaporators, statistics of manufacture and sale Exchange, foreign rates, 1912–1922 Exhibits, Department, work of 1922 Expenditures, Agricultural Department, 1922 Expenditures agricultural— decrease increase, 1921 products, statistics barley, statistics buckwheat, 1849–1922 cattle, statistics	535 1027 1010 46, 59 62, 63, 66-68
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. Sec Milk, condensed. Evaporators, statistics of manufacture and sale Exchange, foreign rates, 1912–1922 Exhibits, Department, work of 1922 Expenditures, Agricultural Department, 1922 Experts— agricultural— decrease increase, 1921 products, statistics barley, statistics beef, statistics buckwheat, 1849–1922 cattle, statistics coffee, statistics	535 1027 1010 1010 46, 59 62, 63, 66-68
rye production and consumption, 1910–1914 western, flaxseed imports and use. Evaporated milk. See Milk, condensed. Evaporators, statistics of manufacture and sale. Exchange, foreign rates, 1912–1922 Exhibits, Department, work of 1922. Expenditures, Agricultural Department, 1922. Exports— agricultural— decrease increase, 1921 products, statistics barley, statistics beef, statistics buckwheat, 1849–1922 cattle, statistics coffee, statistics eorn, statistics corn, statistics	535 1027 1010 1010 46, 59 62, 63, 66-68 62, 63, 66-68 555-964, 968, 970-976, 982 631-958 644 818, 955, 962, 969 956, 961 958, 963, 973
rye production and consumption, 1910–1914 western, flaxseed imports and use Evaporated milk. Sec Milk, condensed. Evaporators, statistics of manufacture and sale Exchange, foreign rates, 1912–1922 Exhibits, Department, work of 1922 Expenditures, Agricultural Department, 1922 Experts— agricultural— decrease increase, 1921 products, statistics barley, statistics beef, statistics buckwheat, 1849–1922 cattle, statistics coffee, statistics	535 1027 1010 1010 46, 59 62, 63, 66-68 62, 63, 66-68 555-964, 968, 970-976, 982 631-958 644 818, 955, 962, 969 956, 961 958, 963, 973

Chirty Page For 1700, note 302 products, statistics 955, 961 flaxsed 587-588, 656 floodstuffs, 1910-1922 70-72 forest products, statistics 957-958, 961, 968, 975-976 fruit, statistics 958, 961, 972-972 grain and grain products statistics 958, 961, 903, 964, 973 hides and skins, statistics 958, 961, 903, 964, 973 hides and skins, statistics 958, 961, 903, 964, 973 hides and skins, statistics 955, 959, 961, 964, 973 horses and mules, statistics 955, 959, 961, 964, 973 horses and mules, statistics 955, 959, 961, 964, 973 horses and mules, statistics 957, 959, 961, 964, 973 meet and meat products, statistics 957, 968, 975-978 meet and meat products, statistics 957, 968, 975-978 meet and meat products, statistics 957, 968, 975-978 meet and meat products, statistics 957, 968, 975, 976 oits, statistics 957, 968, 976, 971 merchandise, increuse 1921 270 packing-house products, statistics 953, 961, 963, 963, 970, 971 packing-house products, statistics 955, 961, 932-963 pennut, oil, statistics 955, 961, 932-963 pennut, oil, statistics 955, 961, 932-963 pennut, oil, statistics 959, 967, 962, 963, 971 rice, statistics 959, 961, 964, 975 rice, statistics 959, 961, 964 pennut, oil, statistics 959, 961, 964, 975 rice, statistics 959, 961, 964, 975 rice, statistics 959, 961, 964, 975 rice, statistics 959, 961, 964, 975 rice, statistics 960, 961, 964 pennut, oil, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961 pennut, statistics 960, 961 pennut, statistics 960, 961 pennut, statistics 960, 961 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 964 pennut, statistics 960, 961, 962 pennut, statistics
products, statistics
finsseed 537-588,05 foodstuffs, 1910-1922 70-72 forest products, statistics 957-958, 961, 968, 975-976 fruit, statistics 958, 961, 968, 975-976 grain and gram products, statistics 958, 961, 963, 964, 973 hides and skins, statistics 958, 961, 963, 964, 973 hides and skins, statistics 960, 962, 963 hops, 1909-1922 960 hops, statistics 975, 959, 961, 964, 974 horses and mules, statistics 975, 959, 961, 964, 974 horses and mules, statistics 957, 968, 975, 977 ment and ment products, statistics 957, 968, 975, 977 merchandise, increase 1921 953, 962, 963, 970, 971 merchandise, increase 1921 953, 962, 963, 970, 971 merchandise, increase 1921 953, 962, 963, 970, 971 merchandise, increase 1921 953, 962, 963, 973 oils, edible, 1916-1921 972 packing-house products, statistics 953 pennut oil, statistics 953 pennut, oil, statistics 953 pennut, statistics 955 pork— and pork products irend, 1790-1922, review and maps—273-275, 277 statistics 950, 961, 963 rye, statistics 950, 961, 963 sheep, statistics 950, 961, 963 sheep, statistics 950, 961, 963 vegetable oils 960, 961, 964 vegetable oils 960, 961 vegetable oils 960, 961 vegetable oils 960, 961 vegetables, statistics 960, 961 whent, statistics 960, 961 whent, statistics 960, 961 products 960, 961 extension— atcivities, club work, field agents, etc 43-44 work, reorganization 960, 961 families, farm, pork consumption 182, 201, 206 farm— credit, legislation needed 14-15 families, farm, pork consumption 182, 201, 206 farm— credit, legislation needed 14-15 families, pork consumption 182, 201, 206 labor. Ree Labor. products— grades and standards 19-21 inspection at shipping point and receiving point 960 shipments to and from Horto Rico 960 shipments to and from Horto Rico 960
Toolstuffs, 1910-1922
forest products, statistics
fruit, statistics
hides and skins, statisface
hogs, 1909-1922 902 hops, statistics
hops, statistics
horses and mules, statistics
lamb and mutton, 1910-1922 882 lumber, statistics
lumber, statistics
meat and meat products, statistics
merchandise, increase 1921
mutton statistics
oils, edible, 1916–1921
packing-house products, statistics 955, 961, 932-963 peanut, oil, statistics 950 peanuts, statistics 959 permuts, statistics 959 pork 273-275, 277 statistics 906, 907-908, 956, 962, 963, 971 rice, statistics 959, 961, 964 rye, statistics 959, 961, 964 rye, statistics 955 sugar, molasses and strup, statistics 960, 961, 964 tobacco 418-449 historical notes 418-449 statistics 960, 961, 964, 975 trade in dairy products 391-394 vegetable oils 1029-1022 vegetables, statistics 960, 961 wool, statistics 9560, 961 wool, statistics 955, 961 Extension 48-44 atcivities, club work, field agents, etc 43-44 work, reorganization 46-47 Families, farm, pork consumption 182, 201, 206 labor. See Labor. 19-21 products 21-22 overproduction, discussion by Secretar
peanut oil, statistics
peanuts, statistics
and pork products trend, 1790—1922, review and maps
and pork products trend, 1700–1922, review and maps
statistics 906, 907-908, 956, 962, 963, 971 rice, statistics 959, 961, 964 rye, statistics 955 sugar, molasses and sirup, statistics 960, 961, 964 tobacco 418-449 historical notes 418-449 statistics 960, 961, 964, 975 trade in dairy products 391-394 vegetable oils 1029-1022 vegetables, statistics 960, 961 wheat, statistics 955, 961 Extension 955, 961 Extension 43-44 work, reorganization 46-47 Families, farm, pork consumption 182, 201, 206 Farm 182, 201, 206 labor. See Labor. 182, 201, 206 products 182, 201, 206 labor. See Labor. 19-21 inspection at shipping point and receiving point 21-22 overproduction, discussion by Secretary 4 prices, discussion by Secretary 3-8, 10-12 shipments to and from Hawaii 969 shipinents to and from Porto Rico 969
rice, statistics
sheep, statistics
sugar, molasses and sirup, statistics 960, 961, 964 tobacco— 418-449 statistics 960, 961, 964, 975 trade in dairy products 391-394 vegetable oils 1029-1022 vegetables, statistics 960, 961 wheat, statistics 960, 961 wool, statistics 960, 961 wool, statistics 955, 961 Extension— 955, 961 atcivities, club work, field agents, etc 43-44 work, reorganization 46-47 Families, farm, pork consumption 182, 201, 206 Farm— 182, 201, 206 credit, legislation needed 14-15 families, pork consumption 182, 201, 206 labor. See Labor. 182, 201, 206 products— 2 grades and standards— 19-21 inspection at shipping point and receiving point 21-22 overproduction, discussion by Secretary 4 prices, discussion by Secretary 3-8, 10-12 shipments to and from Hawaii 969
tobacco— historical notes
historical notes
statistics 960, 961, 964, 975 trade in dairy products 391-394 vegetable oils 1029-1022 vegetables, statistics 960, 961 wheat, statistics 960, 961 wool, statistics 955, 964 extension 955, 961 Extension 43-44 work, reorganization 46-47 Families, farm, pork consumption 182, 201, 206 Farm eredit, legislation needed 14-15 families, pork consumption 182, 201, 206 labor. See Labor. 19-21 products 21-22 overproduction at shipping point and receiving point 21-22 overproduction, discussion by Secretary 4 prices, discussion by Secretary 3-8, 10-12 shipments to and from Hawaii 969 shipments to and from Porto Rico 969
trade in dairy products
vegetable oils. 1029-1022 vegetables, statistics. 960, 961 wheat, statistics. 614, 958, 964, 973 wool, statistics. 955, 961 Extension. 43-44 activities, club work, field agents, etc. 43-44 work, reorganization. 46-47 Families, farm, pork consumption. 182, 201, 206 Farm. 182, 201, 206 labor. See Labor. 182, 201, 206 products. 21-25 grades and standards. 19-21 inspection at shipping point and receiving point. 21-22 overproduction, discussion by Secretary. 4 prices, discussion by Secretary. 3-8, 10-12 shipments to and from Hawaii. 969 shipments to and from Porto Rico. 969
vegetables, statistics
wheat, statistics 614, 958, 964, 973 wool, statistics 955, 961 Extension— atcivities, club work, field agents, etc 43-44 work, reorganization 46-47 Families, farm, pork consumption 182, 201, 206 Farm— credit, legislation needed 14-15 families, pork consumption 182, 201, 206 labor. See Labor. products— grades and standards—19-21 inspection at shipping point and receiving point 21-22 overproduction, discussion by Secretary 4 prices, discussion by Secretary 3-8, 10-12 shipments to and from Hawaii 969 shipments to and from Porto Rico 969
Extension— atcivities, club work, field agents, etc
atcivities, club work, field agents, etc
work, reorganization
Families, farm, pork consumption
Farm— credit, legislation needed
Farm— credit, legislation needed
families, pork consumption
labor. See Labor. products— grades and standards———————————————————————————————————
products— grades and standards———————————————————————————————————
grades and standards
inspection at shipping point and receiving point 21-22 overproduction, discussion by Secretary 4 prices, discussion by Secretary 3-8, 10-12 shipments to and from Hawaii 969 shipments to and from Porto Rico 969
overproduction, discussion by Secretary 4 prices, discussion by Secretary 3-8, 10-12 shipments to and from Hawaii 969 shipments to and from Porto Rico 969
prices, discussion by Secretary3-8, 10-12 shipments to and from Hawaii969 shipments to and from Porto Rico969
shipments to and from Hawaii 969 shipments to and from Porto Rico 969
shipments to and from Porto Rico
value estimates 1879–1922 985
See also Agricultural products.
systems, relation to hog production 199-209 taxes, per acre, by States, 1913 and 1921 1002
Farmer—
calculation of profits in dairying 349-351
failure to appreciate value of pure-bred cattle, note 327
Farmers—
cooperative marketing associations, act encouraging12
Bulletins, new, classified list76–82
food supplies, sources 999–1001 legislation helpful to 10 10
Together to the first to the state of the st

Farming—	Page.
minor expenses	557
tobacco, cropping systems	413–415
Farms— abundaned, relation of forest depletion	99
classification by size, by States	
development in West, relation to dairying	282
expenses by States	1005-1007
hogs, slaughter for meat supply	
implements, statisticsmortgage debt reports, by States	
operators, nativity, by States, 1920	1003
population, land areas, woodland, etc., by States	1009
sales, percentages, by months	992-993
statistics of operations with field implementsvalue of plow lands, 1920–1923	
Fats, necessity in diet	
Feathers—	
exports, statistics	955, 961
imports, statistics	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
Federal Reserve Act, amendment in favor of farmersFeed	14
barley, value and use	499
carriers, statistics of manufacture and sale	1026
cost requirements in milk production	344-350 1005
farm, expenses by Statesgrinders and crushers, statistics of manufacture and sale	1005
live stock, linseed meal, use and value	545–546
oats, value	
price index number, with milk and hay	382
prices, 1910-1922, by months	
use of barley Feeding—	909
barley to live stock, experiment with hogs	499
buckwheat by-products	553
dairy, new discoveries	335
live stock, with ryeoats, notes	511 189 185
Feeds-	400, 400
oat, value and uses	483, 485-486
rye, nature and uses	510-511
waste, utilization for hogs 181, 18: Fence, building, statistics of day's work	2, 204, 206, 207
Fertilizer—	1014
distribution, statistics of day's work	1050
distributors, statistics of manufacture and sale	1026
farm expenses, by States	1005
Fertilizers, tobacco— production, requirements	429
requirements and use	420-422
Fever, cattle, control by eradication of ticks	343
Fibers—	0.40 077
animal, imports, statisticsvegetable, imports, statistics	949, 977
Field peas, seeding, quantity per acre	990
Firs imports statistics	952, 967
Filberts, imports, statistics	953
Fir—balsam, lumber production, by States, 1920	923
Dongles	
lumber production, by States, 1920	921
stumnuge prices	147
white lumber production by States 1920	923
Fire, protection of forests, by States	406-408
rire-cured tobacco, mature, production and about	

Fires-	Page.
forest—	
causes and extent	37,38-41
causes, by States and groups of States, 1921	931-933
occurrence, losses, etcsize, damage, and area, by States and groups of States, 1921	161-162
Firewood, consumption and sources	934-939
Fish, production increase, suggestion.	110
Fixed Nitrogen Research Laboratory, economies effected	1001
Flavoring extracts, exports, statistics	56 957
Flax— .	- 301
cost of production, variation with region	554
crop, value rank	470
diseases and insects, control	542-543
harvest method	
imports, statistics951, 965	, 966, 979
industry in United States, history, 1620-1919	538-541
position in American agriculture	568
seed-	
acreage, production, prices, imports and exports, trend	. 533–538
acceage, world countries, 1912, 1913	
classes, commercial	
cost of production, discussion	558
erop, importance, location, acreage, and production, 1919	
productionproduction, factors	
soils adaptable	542
statistics, production, prices, etc	647_656
world production and acreage, by countries	647-650
Flaxseed—	1744 1700
classes and grades	543, 545
crop—	,
condition and forecasts, by months	651
losses, causes and extent, 1910-1921	
crops of 1920–1922, summary	
crushing for oil and cake535,	
exports, 1899–1922	
food uses	- 546
harvest season	988
imports— 1899-1922	K97 K99
statistics	
market receipts, 1910–1923	, 500, 655 655
marketing	543-545
marketings by farmers, monthly	
TO THE CASE OF THE	
1907–1909	538
farm and market	652, 654
production and value, by States	651
quality as shown by grade	
seeding, quantity per acre	990
statistics, production, prices, etc., 1849–1922trade—	090-090
and prices	568
international, by countries	
uses in manufacture of paints, etc	
Flea beetle, tobacco, injury and control	423
Florida	
citrus fruits, production and value	745, 747
cold-storage space, 1922	1019
farm—	
expenses 1005, 1	006, 1007
mortgage debt	1004
operators nativity	1003
population, lands, etc., in 1920	1009 999 1000
rander s root suppry, sources	mar itali

farms, classification by size	Florida—Continued.	Page.
Food supply of farm, sources 1000	farms, classification by size	1008
forest fires, causes, size, damage, and area, 1921	[00d Supply of farm sources	1000
rice production in, 1849-1919	forest fires, causes, size, damage, and area, 1921.	932, 936
taxes on farm real estate 1002 1098 Flour 2997 2997 2897 2997 2897 2997 2897 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997 2997	rice production in 1849-1919	515-517
Seports	laxes on farm real estate	1002
Sex 1800, 1840, 1845 915, 964, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974 974, 974, 974, 974, 974, 974, 974, 974,	wages on farm, 1913 and 1922	996
1800, 1846, 1845. 6115 statistics. 959, 964, 974 freight tonnage of railways, 1916–1922 1012 output, daily, by States. 615 Flours, rye and wheat, comparison. 507 Flu," bog disease, symptoms and losses. 218 Flue-cured tobacco, nature, production, and use. 408 Food—		
Statistics	exports—	<i>6</i> 15
freight tonnage of railways, 1916–1922 1012 output, daily, by States	1800, 1840, 1845	950 964 974
output, daily, by States	fraight tappage of reilyrang 101(110)	1012
Flours rye and wheat, comparison 300 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301 301	output daily by States	615
#Flu." hog disease, symptoms and losses	Flours, rve and wheat comparison	507
Flue-cured tobacco, nature, production, and use	"Flu," bog disease, symptoms and losses	218
Food— cereal grains, composition and value	Flue-cured tobacco, nature, production, and use	408
cereals, production increase, suggestion	Food—	
farmers' supplies, sources	cereal grains, composition and value	4/1
Products, inspection by United States Government 374-375	cereals, production increase, suggestion	1001 000
Darley, forms	rarmers' supplies, sources	274_275
barley, forms	Foods— Products, inspection by United States Government	11 01T 010
0at, forms and value 483 Foodstriffs, exports, 1910-1922 70-72 Forage, crops of 1920-1922, summary 984 Foreign—	barley forms	498
Foodstuffs, exports, 1910-1922 summary 984 Foreign—	oat, forms and value	483
Foreign— countries— barley, acreage and production	F000Stuffs, exports 1910-1999	10-12
Foreign	Forage, crops of 1920-1922, summary	984
barley, acreage and production	Foreign—	
beans, production, 1909–1922 786 beets, production, 1909–1922 786 corn, acreage and production 569–570 cotton, acreage and production 647–650 hops, production, 1805–1922 749 live stock, number and kinds, by countries 758–801 oats, acreage, production, etc 618–620 peanuts, production, 1911–1921 760 peas, production, 1909–1922 757–758 potatoes, acreage and production 666–667 poultry, number and kinds, by countries 802–803 rye, production and acreage 637–638 silk, production, 1909–1921 783–786 tobacco, production and acreage, 1909–1922 723–724 wheat, production, 1909–1921 884 exchange rates for 1912–1922 1010 Forest— experiment stations, increase, recommendation 86 Green See Fires, forest. latter— Gaternment owned, area— 159 unmagement, practices and suggestions 159 legistation, recommendations by Secretary 86–195 experiment statistics— 957–958, 961, 968, 975–976 imports, statistics— 957–958, 961, 968, 975–976 imports, statistics— 951–952, 961, 968, 975–976 imports, statistics— 951–952, 961, 968, 981, 982 Service— economies effected— 57 receipts, 1922 914–948	countries—	690 691
beets, production, 1909–1922 786 corn, acreage and production 569–570 cotton, acreage and production, 1910–1911 708–711 flax, acreage and production 647–650 hops, production, 1805–1922 749 live stock, number and kinds, by countries 795–801 oats, acreage, production, etc. 618–620 peanuts, production, 1911–1921 760 peaus, production, 1909–1922 757–758 potatoes, acreage and production 663–667 poultry, number and kinds, by countries 802–803 rye, production and acreage 637–638 rye, production and acreage 637–638 silk, production, 1909–1921 794 sugar, production, 1909–1921 783–786 tobacco, production and acreage, 1909–1922 723–724 wheat, production, yield, etc. 581–582, 584–587 wool, production, 1911–1921 884 exchange rates for 1012–1022 1010 Forest— experiment stations, increase, recommendation 36 Gress See Fires, forest. lanase Government owned, area 159 unmargement, practices and suggestions 166–170 ownership 159 legistation, recommendations by Secretary 36–38 planting, increase and need 168–169 products— exports, statistics 957–958, 961, 968, 975–976 imports, statistics 957–958, 961, 968, 975–976 imports, statistics 951–952, 961, 968, 981, 982 Service— economies effected 57 receipts, 1922 914–948	have production 1000 1000	752-754
corn, acreage and production	beets production 1909-1922	786
cotton, acreage and production, 1910–1911	com, acreage and production	569-570
flax, acreage and production	Cotton, acreage and production, 1910-1911	708-711
live stock, number and kinds, by countries 618-620 oats, acreage, production, etc	flax, acreage and production	
oats, acreage, production, etc	hops, production, 1895–1922	705_901
peanuls, production, 1911–1921	orta communication and kinds, by countries	618-620
peas, production, 1909–1922	neurist production 1011 1091	700
polatoes, acreage and production	ness production 1000_1022	
poultry, number and kinds, by countries	notation general and madration	
rye, production and acreage	toulier number and kinds by countries	802-803
silk, production, 1909–1921 783–786 sugar, production, 1909–1921 783–786 dobacco, production and acreage, 1909–1922 723–724 wheat, production, yield, etc	rye production and acrosses	
Tobacco, production and acreage, 1909-1922 123-124 Wheat, production, yield, etc	silk production 1000 1001	(i)±
Wheat, production, yield, etc	sugar, production, 1909–1921	792-794
wool, production, 1911–1921 1010 Forest—	tonacco, production and acreage, 1909-1922-	581-582, 584-587
exchange rates for 1912-1922	1111101 mmoderation 1011 1001	
Profest	exchange rates for 1912-1922	1010
See Fires, forest. 159 166-170 159 166-170 159 169 159 169 159 169 159 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169	81745794444	
See Fires, forest. 159 166-170 159 166-170 159 169 159 169 159 169 159 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169	experiment stations, increase, recommendation	36
Government owned, area	Nee Fires, forest.	
Introducts 159 159 159 159 159 159 159 159 159 159 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169 169	lanus-	159
ownership legistation, recommendations by Secretary	Government owned, area	166–170
legistation, recommendations by Secretary	£45577144394154594	LOO
planting, increase and need	logistation recommendations by Secretary	36–38
problems, discussion by Secretary	Dignific income and read	
products—	problems, discussion by Secretary	34-41
Imports, statistics		
Service	experts, statistics	951_952_961_968_981_982
economies effected	imports, statistics	001-002, 001, 000, 001, 001
receipts, 1922	according affected	57
ofotieties of the state of the	70(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(4)(
trees, insects and diseases, control 162-165	ototichica	
	trees, insects and diseases, control	102–160

Forestry—	Page.
expenditures, Federal, State, and private, 1922	948
Federal cooperation with States and individuals	35, 36, 39
improved, increase of timber growth	141-144
National activities, education and research	171-172
needs and practices	166-180
waste lands, feasibility, timber growth, etc	138–145
white-pine, profitableness, examples	152–154
Forests—	•
depletion— relation of land clearing	04.00
relation of tankon manne	84-86
relation of timber miningeastern area, original and depletion	84
fires—	04-80, 88
protection	27 22_41
protection, by States	
intensive management, relation to permanent settlements_	107-108
municipal and county, by States	
National—	
administration, protection, and uses	34-41
area, by States, 1922	
road and trail construction	
timber, free use by residents, 1906-1921	947
timber sales, amount and value, 1904-1921	944
timber stand, by forests and by species, 1922	944-947
planting, by regions, and by classes of owners	
State, parks and other State forest land, by States	940
trees, annual growth by species and by regions	
western, area, orignal and depleted	84-86, 88
France—	
buckwheat production, in 1909-1913	547
demand for American pork products	251
hogs, decrease, graph	185
prohibition of American pork, 1881	
reforestation and reclamation work, cost and revenues	106-107
Friars, introduction of milk cattle	
Freezing, danger to cheeseFreight—	356
charges, relation to lumber prices	110191
lumber, charges in 1920	
rates	II
hogs and pork, Chicago to New York, 1896-1922, graph	h 252
index numbers for 1900–1922	1011
on lumber, hauls, etc	
railway, changes for 1900 and 1923	1013-1018
relation to farm prices	
relation to market movement of hogs	
tonnage, railway, for farm products, 1916-1922	
Fruit	
and vegetables, freight tonnage of railways, 1916-1922	1012
statistics of day's work in several operations	1068-1070
Fruits—	
budding, researches	26
exports, statistics	958, 961, 972–973
grading	20
imports, statistics	952, 961, 967
production, increase, suggestion	1001
receipts at principal markets, by months	776–777
shipments, carlot, by months	774-777
statistics, production, prices, etc	730–748
Fuel, wood, consumption	109
Funds—	A4 A0
Agriculture Department, appropriations and income	61-68
reserve, amount saved during yearFungous diseases, rye, losses from	
rungous diseases, lye, mases if offi	508

CAPAGE W W F C Moss II C Verre F D W	Page.
GARNER, W. W., E. G. Moss, H. S. Yohe, F. B. Wilkinson, and Stine, article on "History and status of tobacco culture"	O. C. 395_468
Geese, world, numbers, by countries	802-803
Gelatin, imports, statistics	949
Georgia—	
cold-storage space, 1922	1019
farm—	× 1000 1007
expenses 100 mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920	1009
farmer's food supply, sources	999, 1000
farms, classification by size	1008
food supply of farm, sources	1000
forest— hres, causes, size, damage, and area, 1921	റാറ റാക
products, returns to State	
kair and mile, introduction	528
rice production, 1839–1919	
rye growing, early history	503
Sumter County, farms organization	208
taxes on farm real estate	1002
wages on farm, 1913 and 1922	996
Germany—	051 050
demand for American pork products bogs, increase, graph	251, 273
pork production, consumpt on, and imports	273
prohibition of American pork, 1881	191
rye production, 1910-1914	501
timber production and requirements	126
GIBBONS, C. E., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, R. H. WI	
H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES,	
SWARTHOUT, W. B. BELL, G. S. JAMIESOS, C. W. WARBURTON, and	C. F.
LANGWORTHY, article on "Hog production and marketing"Ginsens, exports, statistics	181-280
Gipsy moth, distribution	508, 561
Girls' clubs, work, summary and details	44
Chrose-	
exports, statistics958, freight tonnage of railways, 1916–1922	061, 963, 973
	1012
Glue-	
exports, statistics	
imports, statisticsGoats—	949
slaughter under inspection	913
world, numbers, by countries	795-801
Graders, statistics of manufacture and sale	1025
Grades	
flaxseed, State sets	545
rice	
hogs and pork, need in marketing	261–264
Grading—	050
butter and cheese, remarks	373
farm productsGrain—	19-21
amount and cost for 100 pounds of milk	349
crops, statistics	569-665
Futures Act	000
benefit to farmers	13
enactment, amendment and enforcement	48-49
imports, statistics9	52, 961, 965
production, computation, example	570
products— exports, statistics 058, 961, 9	62 064 079
exports, statistics 1708, 901, 90	03, 904, 973

Grain—Continued.
seed Page. loans, 1922 51
Joans collection 57 50
sorghums, crops of 1920–1922. summary 984
Sec also Sorghums.
Standards—
Act, enforcement, increased activity 23-24
revision21
statistics of day's work in several operations1053-1059
cereal, food value and composition 471
coarse, application of term 469
course, application of term
small—
article by C. R. Ball and others 469-568
application of term 469
Grape fruit— imports, statistics—————————————————————————————————
prices, wholesale, by months 747
shipments, by carlots745
Grapes—
harvest season988
imports, statistics 952
shipments, carlot, by States773
Grass———————————————————————————————————
exports, statistics
imports, statistics954, 980
worm, southern, injury to rice 519
Grasshoppers, control in rice fields543
Grease, exports, statistics956
Great Britain—
timber production and requirements
GREELEY, W. B., EARLE H. CLAPP, HERBERT A. SMITH, RAPHAEL ZON, W. N.
SPABHAWK, WARD SHEPARD, and J. KITTREDGE, Jr., article on "Timber:
mine or (rop?" 83-180
Green bug, oat enemy, economic importance 482
Guernsey cow, champion butter-fat producer 330
Gum, lumber production, by States, 1920 924
Guns, imports, statistics951, 961, 968
Hams, market prices, wholesale and retail, 1913-1922894
Hardwoods—
production and consumption 11:3-114
stampage prices 149–150
HARLAN, H. V., C. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C.
STINE, O. E. BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STARTON, artille on "Oats, barley, rye, rice, grain sorghums, seed
flax, and buckwheat"469-568
Harrowing, statistics of acreage per day 1048
Harrows, statistics of manufacture and sale
Harvest—
machinery statistics, manufacture and sale1024-1025
seasons for important crops 988
Harvesters, statistics of manufacture and sale1024, 1025
Hawaii— farm-products shipments, 1919–1921. 969
farm-products shipments, 1919–1921
HAWTHORNE, H. W., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIB-
BONS, R. H. WILCOX, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V.
BONS, R. H. WILCOX, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181-280
IANGWORTHY, article on "Hog production and marketing" 181-280

1101

Hay—		
arcage, production, and value, by States		, ,,,
amount and cost for 100 pounds of milk		
area occupied by condition and forecasts, 1909–1922 condition and forecasts, 1909–1922 value rank value rank 470 crops of 1920–1922, summary exports, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics fores, statistics grades, exhibit g	acreage, production, and value, by States	685
crop— condition and forecasts, 1909-1922	amount and cost for 100 pounds of milk	349
condition and forecasts, 1900-1921 638 losses, causes and extent, 1900-1021 6392 value rank	area occupied by	563
losses, causes and extent, 1909-1021 692 value rank		
value rank	condition and forecasts, 1909–1922	686
Crops of 1920-1922, summary		
exports, statistics of manufacture and sale 1026 forks, statistics of manufacture and sale 1026 freight— rates for several routes, 1900–1923 1015 tonnage of railways, 1916–1922 1012 grades, exhibit 21 harvest season 988 imports, statistics 503, 961 leguminous, production in United States, 1920 333 market shipments, 1910–1922, by months 505, 563, 564 position in American agriculture 505, 563, 564 prices farm and market 638, 569 prices, farm and market 648, 686, 695 production and value, 1849–1922 684, 686, 695 production and value, 1849–1922 684, 686, 695 prices, farm and market 62 684, 686, 695 prices, farm and market 63, 687 Haying, statistics of day's work 63, 697 Haying, statistics of day's work 63, 697 Health, relation to dairying 353–837 Hemolock, lumber production, by States, 1920 921 Hemp, imports, statistics Hiddes— and leather, freight tonnage of railways, 1916–1922 1012 exports, statistics miports— and leather, freight tonnage of railways, 1916–1922 1012 exports, statistics— by months, 1910–1922 592 frailstics— imports— freight tonnage of railways, 1916–1922 1012 exports, statistics— fraile, freight tonnage of railways, 1916–1922 1012 exports, statistics— frailed, freight tonnage of railways, 1916–1922 1012 exports, statistics— frailed, freight on malk marketing— exports, statistics— frailed, freight on malk marketing— frailed, freight on malk marketing— frailed, freight on malk marketing— frailed, freight on malket, early practices— auction sales, advantages— ecologra, losses and control— frailed, symptoms and losses— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction sales, advantages— auction	value rank	470
forks, statistics of manufacture and sale freight—	crops of 1920–1922, summary	983
rates for several voutes, 1900–1923 1015 tonnage of railways, 1916–1922 1012 grades, exhibit 2 harvest season 988 imports, statistics 988 imports, statistics 988 imports, statistics 933, 961 leguminous, production in United States, 1920 333 market shipments, 1910–1922, by months 997, 562, 563, 564 price index numbers with milk and feed 382, prices, farm and market 684, 686–685 prices, farm and market 684, 686–685 production and value, 1849–1922 684, 681, 681, 682, 683, 684, 686, 687, 688, 687, 688, 688, 688, 688	exports, statistics	959, 961
ratos for several routes, 1900–1923. 1015 tonnage of railways, 1016–1922. 21 harvest season. 988 imports, statistics. 953, 961 leguminous, production in United States, 1920. 333 market shipments, 1910–1922, by months. 631 position in American agriculture. 502, 503, 564 price index numbers with milk and feed. 382 prices, farm and market. 684, 686–685 production and value, 1849–1922. 684 statistics, production, price, cfc. 684–695 stocks on farms, 1910–1922. 3686 gield and acre value, by States. 687 Haying, statistics of day's work. 1051–1053 Hendors, statistics of manufacture and sale. (024 Health, relation to dairying. 335–337 Hemlock, lumber production, by States, 1920. 921 Hemp, imports, statistics. 956 imports— and lenther, freight tonnage of railways, 1916–1922. 1012 exports, statistics. 956 imports— by months, 1910–1922. 805 statistics. 956 imports— by months, 1910–1922. 805 statistics. 956 imports— hy months, 1910–1922. 805 statistics. 956 imports— hy months, 1910–1922. 805 statistics. 957 prices, by months. 807 stocks on hand. 806 trade, international, by countries. 804–805 Highways— improvement, relation to milk marketing. 259 transportation of milk. 366–859 Hogs— cholera, losses and control. 215–217 "flu," symptoms and losses . 218 industry, development, and changes since 1790. 1861–192 markets, location and annual receipts. 231–233 Hogging-down crops, advantages. 182, 205 Hogs— auction sales, advantages. 239 irved's and types, origin and description. 193–199 demand, fluctuations. 221 driving to market, early practices. 223 exports— 1909–1922. 902 statistics. 965 fattening— on rice by-products and corn. 511–512 on rye and corn. 511–512 on organism and other feeds. 532–538 feeding—	forks, statistics of manufacture and sale	1026
tomage of railways, 1916–1922 1012 grades, exhibit 21 harvest season 988 imports, statistics 953, 961 leguminous, production in United States, 1920. 383 market shipments, 1910–1922, by months 610 position in American agriculture 562, 563, 564 price index numbers with milk and feed 784, 681–685 production and value, 1849–1922 684, 54415415, production, price, cfc 684–685 stocks on farms, 1910–1922 684 statistics, production, price, cfc 684–685 stocks on farms, 1910–1922 685 Health, relation to dairying 335–337 Huying, statistics of day's work 1051–1053 Headders, statistics of manufacture and sale 624 Health, relation to dairying 335–337 Hempi imports, statistics Hickory, lumber production, by States, 1920 921 Hempi, imports, statistics 9586 Hickory, lumber production, by States, 1920 927 Hides—and leather, freight tonnage of railways, 1916–1922 1012 exports, statistics—956 statistics—956 statistics—950 by months, 1910–1922 950 prices, by months—950 stocks on hand—950 stocks on hand—950 stocks on hand—950 transportation of milk—950 transportation of milk—950 transportation of milk—950 market, location and annual receipts—951 exports—182, 205 Hogs—196 uniprovement, relation to milk marketing—950 markets, location and annual receipts—951 markets, location and annual receipts—951 markets, location and annual receipts—952 suction sales, advantages—952 suction sales, advantages—953 suction sales, advantages—953 prices by products and corn—953 fattening—955 on rice by-products and corn—953 fattening—955 on rice by-products and corn—953 fattening—955 on rice by-products and corn—951 on rice by-products and corn—953 feeding—960 on rice by-products and corn—953 feeding—960 on rice by-products and corn—953 feeding—960 on rice by-products and corn—953 feeding—960 on rice by-products and corn—953 feeding—960 on rice by-products and corn—953 feeding—960 on rice by-products and corn—953 feeding—960 on rice by-products and corn—960 on rice by-products and corn—960 on rice by-products and corn—960 on rice by-products and corn—96		
grades, exhibit	rates for several routes, 1900-1923	1015
harvest season 988 imports statistics 953, 961 leguminous, preduction in United States, 1920 333 market shipments, 1910–1922, by months 691 position in American agriculture 562, 563, 564 price index numbers with milk and feed 582, 563, 564 prices, farm and market 684, 684, 684, 685 production and value, 1849–1922 684, 685 statistics, production, price, etc 684, 685 stocks on farms, 1910–1922 684 yield and acre value, by States 685 yield and acre value, by States 685 Health, relation to dairying 335–337 Hemlock, statistics of manufacture and sale 692, 1920 Health, relation to dairying 335–337 Hemlock, lumber production, by States, 1920 921 Hemp, imports, statistics 692, 1920 927 Hides— 2927 Hides— 2927 Hides— 2927 and leather, freight tonnage of railways, 1916–1922 1012 exports, statistics 596 imports— 596 imports— 597 prices, by months, 1910–1922 596 statistics— 957, 967, 977 prices, by months, 1910–1922 597 prices, by months, 1910–1922 597 transportation of milk 897 transportation of milk 897 transportation of milk 897 transportation of milk 897 transportation of milk 897 transportation of milk 897 transportation of milk 898 Hogs— 218 industry, development, and changes since 1790 186–192 markets, location and annual receipts 218 industry, development, and changes since 1790 186–192 markets, location and annual receipts 218 dogsing-down crops, advantages 228 uction sales, advantages 229 breeds and types, origin and description 193–193 demand, fluctuations— 226 diseases, causes, and losses resulting— 215–217 driving to market, early practices— 228 exports— 229 statistics— 935 fattening— 0100–1922 990 con rice by-products and corn— 511–512 on rorgiums and other feeds— 589–586 feeding— 400	tonnage of railways, 1916-1922	1012
imports, statistics 953, 961 leguminous, production in United States, 1920 333 market shipments, 1910–1922, by months 691 position in American agriculture 502, 563, 564 price index numbers with milk and feed 382 prices, farm and market 684, 684–805 production and value, 1849–1922 684 statistics, production, price, etc 684–805 stocks on farms, 1910–1922 686 yield and acre value, by States 687 Haying, statistics of day's work 9151–1053 Hendors, statistics of manufacture and sale 1024 Health, relation to dairying 358–337 Hemlork, lumber production, by States, 1920 921 Hemp, imports, statistics 951, 965, 966 Hickory, lumber production, by States, 1920 921 Hides— and leather, freight tonnage of railways, 1916–1922 1012 exports, statistics 956 imports— by months, 1910–1922 595 statistics 956 imports— by months, 1910–1922 595 statistics 956 imports— by months, 1910–1922 595 statistics 956, 967, 977 prices, by months 806 trade, international, by countries 804–805 Highways— improvement, relation to milk marketing 359 transportation of milk 368–359 Hogs— cholera, losses and control 215–217 "flu," symptoms and losses 1218 industry, development, and changes since 1790 186–192 markets, location and annual receipts 231–233 Hogging-down crops, advantages 182, 205 Hogs— auction sales, advantages 192 auction sales, advantages 239 breeds and types, origin and description 193–199 demand, fluctuations 261 diseases, causes, and losses resulting 215–219 driving to market, early practices 228 exports— 1900–1922 902 statistics 935 fattening— on rice by-products and corn— 511–512 on rye and corn— 524 on rye and corn— 524 on rye and corn— 524 on rye and corn— 526 on sorghums and other feeds 532–533 feeding—	grades, exhibit	21
leguminous, production in United States, 1920. 333 market shipments, 1910–1922, by months. 691 position in American agriculture. 502, 563, 564 price index numbers with milk and feed. 382 prices, farm and market. 684, 684–685 production and value, 1849–1922. 684 statistics, production price, etc. 684–685 stocks on farms, 1910–1922. 686 yield and acre value, by States. 687 Haying, statistics of day's work. 951–1053 Headers, statistics of manufacture and sale. 1024 Health, relation to dairying. 335–337 Hemlock, lumber production, by States, 1920. 921 Hemp, imports, statistics. 951, 963, 963 Hickory, lumber production, by States, 1920. 927 Hides— and leather, freight tonnage of railways, 1916–1922. 1012 exports, statistics. 956 imports— by months, 1910–1922. 805 statistics—956 imports—by months—956 imports—1056 imports—1057 prices, by months—966 trade, international, by countries—966 Highways— improvement, relation to milk marketing—966 rade, international, by countries—966 Highways— improvement, relation to milk marketing—966 rade, international, marketing—966 rade, international, and changes since 1790—186–192 markets, location and annual receipts—218 industry, development, and changes since 1790—186–192 markets, location and annual receipts—221–233 Hogging-down crops, advantages—122, 231–233 Hogging-down crops, advantages—123, 231–233 Hogging-down crops, advantages—124, 231–233 Hogging-down crops, advantages—125–219 driving to market, early practices—221 diseases, causes, and losses resulting—251–219 driving to market, early practices—252 exports— 1900–1922—290 statistics—505 fattening— 00 rice by-products and corn—511–512 on rog-gums and other feeds—505–538 feeding—	harvest season	988
market shipments, 1910-1922, by months	imports, statistics	953, 961
position in American agriculture 502, 563, 564 price index numbers with milk and feed 382 prices, farm and market 684, 686-695 production and value, 1849-1922 684 statistics, production, price, cfc 684-695 stocks on farms, 1910-1922 685 yield and acre value, by States 687 Haying, statistics of day's work 1051-1053 Headers, statistics of manufacture and sale 1024 Health, relation to dairying 335-337 Hembock, lumber production, by States, 1920 921 Hemp, imports, statistics 981 Hickory, lumber production, by States, 1920 927 Hides— and leather, freight tonnage of rankways, 1916-1922 1012 exports, statistics— 956 imports— by months, 1910-1922 805 statistics— 956 imports— by months, 1910-1922 805 statistics— 950, 967, 977 prices, by months— 807 stocks on hand— 806 trade, international, by countries— 804-805 Highways— improvement, relation to milk marketing— 359 transportation of milk— 359-359 Hogs— cholern, losses and control— 215-217 "flu," symptoms and losses— 218 industry, development, and changes since 1790— 186-192 markets, location and annual receipts— 231-233 Hogging-down crops, advantages— 182, 205 Hogs— auction sales, advantages— 239 breeds and types, origin and description— 193-193 demand, factuations— 261 diseases, causes, and losses resulting— 225 exports— 1909-1922— 902 statistics— 955 fattening— on rice by-products and corn— 511-512 on sorghums and other feeds— 532-538 feeding—	leguminous, production in United States, 1920	833
price index numbers with milk and feed	market shipments, 1910-1922, by months	691
prices, farm and market	position in American agriculture	562, 563, 564
production and value, 1849-1922 681-685 statistics, production, price, etc. 681-685 stocks on farms, 1910-1922 686-685 yield and acre value, by States 687 Haying, statistics of day's work 1051-1053 Headers, statistics of day's work 1051-1053 Headers, statistics of annufacture and sale 1024 Health, relation to dairying 335-837 Hemlock, lumber production, by States, 1920 921 Hemp, imports, statistics 1920 927 Hides— and leather, freight tonnage of railways, 1916-1922 1012 exports, statistics 956 imports— by months, 1910-1922 885 statistics 956, 967, 977 prices, by months 977 prices, by months 986 trade, international, by countries 804-805 Highways— improvement, relation to milk marketing 359 transportation of milk 356-359 Hog- cholera, Iosses and control 215-217 "iu," symptoms and losses—218 industry, development, and changes since 1790 186-192 markets, location and annual receipts 231-233 Hogging-down crops, advantages—182, 205 Hogs— auction sales, advantages—193 brevds and types, origin and description 193-199 demand, fluctuations—228 exports—1909-1922 902 statistics—556-588 feeding—600 rye and corn—511-512 on sorghums and other feeds—532-533 feeding—600 rye and corn—511-512 on sorghums and other feeds—532-533 feeding—600 on sorghums and other feeds—500-566 feeding—600-600-600-6000-6000-6000-6000-6000-6	price index numbers with milk and feed	382
Statistics Production Price etc. 684 - 685 Stocks on farms 1910-1922 686 Yield and acre value by States 687 Haying Statistics of day's work 1051-1053 Headers, statistics of manufacture and sale (1024 Health, relation to dairying 335-337 Hemplock lumber production by States 1920 921 Hemp, imports, statistics 951,965,966 Hickory, lumber production by States 1920 927 Hides 956 Hides 956 and leather, freight tonnage of railways 1916-1922 1012 exports, statistics 956 imports 956 by months 1910-1922 805 statistics 950,967,977 prices by months 956 frade international by countries 804-805 Highways improvement, relation to milk marketing 359 transportation of milk 356-359 Hog- cholera, losses and control 215-217 "flu," symptoms and losses 218 industry, development, and changes since 1790 186-192 markets, location and annual receipts 231-233 Hogging down crops, advantages 239 breeds and types, origin and description 193-199 demand, fluctuations 261 diseases, causes, and losses 228 exports 228 exports 1909-1922 902 Statistics 955 fattening on rice by-products and corn 524 on rye and corn 511-512 on sorghums and other feeds 532-533 feeding 1900-1923 1900 decading 1900-1922 902 on sorghums and other feeds 532-533 feeding 1900-1923 1900 decading 1900-1923 1900 decading 1900-1924 1900 on sorghums 1900-1925 1900 decading 1900-1925 1900 on sorghums 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading 1900-1925 1900 decading	prices, farm and market	084, 086-695
Stocks on farms, 1910-1922 686 Syleid and acre value, by States 687 Haying, statistics of day's work 1051-1053 Headers, statistics of manufacture and sale 1024 Health, relation to dairying 385-837 Hemlock, lumber production, by States, 1920 921 Hemp, imports, statistics 951, 965, 966 Hickory, Iumber production, by States, 1920 927 Hides and leather, freight tonnage of railways, 1916-1922 1012 exports, statistics 956 imports 956 by months, 1910-1922 805 statistics 950, 967, 977 prices, by months 807 stocks on hand 806 trade, international, by countries 804-805 Highways improvement, relation to milk marketing 359 transportation of milk 356-359 Hog	production and value, 1849-1922	681
Yield and acre value, by States	staustics, production, price, etc	684-695
Headers, statistics of manufacture and sale	stocks on farms, 1910-1922	686
Headers, statistics of manufacture and sale	yield and acre value, by States	687
Health, relation to dairying 35-837 Hempo, imports, statistics 951, 965, 966 Hickory, lumber production, by States, 1920 927 Hides 927 Hides 927 Hides 928 927 Hides 928 927 Hides 929 927 Hides 927 Hides 956 and leather, freight tonnage of railways, 1916–1922 1012 exports, statistics 956 imports 956 by months, 1910–1922 805 statistics 950, 967, 977 prices, by months 807 stocks on hand 806 trade, international, by countries 804-805 Highways 1804-805 Highways 359 transportation of milk 356-359 Hog- 186-192 cholera, losses and control 215-217 "fiu," symptoms and losses 218 industry, development, and changes since 1790 186-192 markets, location and annual receipts 231-233 Hogging-down crops, advantages 182, 205 Hogs 239 auction sales, advantages 239 breeds and types, origin and description 193-199 demand, fluctuations 261 diseases, causes, and losses resulting 215-219 driving to market, early practices 228 exports 228 exports 228 exports 902 statistics 955 fattening 511-512 on rice by-products and corn 524 on rye and corn 511-512 on sorghums and other feeds 532-533 feeding 500-500 1012 1012 102 102 102 103 103 103 104 105 103 105 105 103 105 105 103 105 105 103 106 107 103 107 107 103 108 107 103 108 107 103 109 109 109 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 100 109 1	maying, statistics of day's work	1051-1053
Hemports, statistics	Headers, statistics of manufacture and sale	1024
Heinh, imports, statistics	meann, relation to dairying	335-337
Heinh, imports, statistics	Hemlock, lumber production, by States, 1920	921
and leather, freight tonnage of railways, 1916–1922 1012 exports, statistics 956 imports— by months, 1910–1922 805 statistics 950, 967, 977 prices, by months—807 stocks on hand—806 trade, international, by countries—804–805 Highways— improvement, relation to milk marketing 359 transportation of milk—356–359 Hog— cholera, losses and control—215–217 "flu," symptoms and losses—218 industry, development, and changes since 1790—186–192 markets, location and annual receipts—231–233 Hogging-down crops, advantages—182, 205 Hogs— auction sales, advantages—239 birecds and types, origin and description—193–199 demand, fluctuations—231 driving to market, early practices—228 exports— 1909–1922—902 statistics—955 fattening— on rice by-products and corn—511–512 on sorghums and other feeds—532–533 feeding—	memp, imports, statistics	951, 965, 966
and leather, freight tonnage of rankways, 1916–1922 1012 exports, statistics 956 imports— by months, 1910–1922 805 statistics 950, 967, 977 prices, by months 807 stocks on hand 806 trade, international, by countries 804–805 Highways— improvement, relation to milk marketing 359 transportation of milk 356–359 Hog— cholera, losses and control 215–217 "flu," symptoms and losses—218 industry, development, and changes since 1790 186–192 markets, location and annual receipts—231–233 Hogging-down crops, advantages—182, 205 Hogs— auction sales, advantages—239 breeds and types, origin and description—193–199 demand, fluctuations—239 breeds and types, origin and description—215–219 driving to market, early practices—228 exports— 1909–1922—902 statistics—955 fattening— on rice by-products and corn—511–512 on sorghums and other feeds—532–533 feeding—	Hickory, lumber production, by States, 1920	927
exports, statistics 956 imports— by months, 1910–1922 805 statistics 950, 967, 977 prices, by months 807 stocks on hand 806 trade, international, by countries 804–805 Highways— improvement, relation to milk marketing 359 transportation of milk 356–359 Hog— cholera, losses and control 215–217 "flu," symptoms and losses 218 industry, development, and changes since 1790 186–192 markets, location and annual receipts 231–233 Hogging-down crops, advantages 182, 205 Hogs— auction sales, advantages 182, 205 Hogs— auction sales, advantages—239 breeds and types, origin and description 193–199 demand, fluctuations—261 diseases, causes, and losses resulting 215–219 driving to market, early practices—228 exports— 1909–1922—902 statistics—955 fattening— on rice by-products and corn—511–512 on sorghums and other feeds—532–533 feeding—	F11065	
by months, 1910–1922		
by months, 1910–1922	and leather, freight tonnage of railways, 1916-1922	1012
Statistics	and leather, freight tonnage of railways, 1916-1922exports, statistics	1012 956
prices, by months 807 stocks on land 806 trade, international, by countries 804-805 Highways 359 improvement, relation to milk marketing 359 transportation of milk 356-359 Hog 215-217 "flu," symptoms and losses 218 industry, development, and changes since 1790 186-192 markets, location and annual receipts 231-233 Hogging-down crops, advantages 182, 205 Hogs 239 breeds and types, origin and description 193-199 demand, fluctuations 261 diseases, causes, and losses resulting 215-219 driving to market, early practices 228 exports 228 1909-1922 902 statistics 955 fattening 511-512 on rice by-products and corn 511-512 on sorghums and other feeds 532-533 feeding 532-533	and leather, freight tonnage of rankways, 1916-1922 exports, statistics imports—	956
Stocks on hand	and leather, freight tonnage of rankways, 1916–1922imports— by months, 1910–1922*	956
trade, international, by countries	and leather, freight tonnage of railways, 1916–1922 exports, statistics imports— by months, 1910–1922* statistics	956 950, 967, 977
improvement, relation to milk marketing 359 transportation of milk 356-359 Hog cholera, losses and control 215-217 "flu," symptoms and losses 218 industry, development, and changes since 1790 186-192 markets, location and annual receipts 231-233 Hogging-down crops, advantages 182, 205 Hogs auction sales, advantages 239 breeds and types, origin and description 193-199 demand, fluctuations 261 diseases, causes, and losses resulting 215-219 driving to market, early practices 228 exports 1909-1922 902 statistics 955 fattening on rice by-products and corn 524 on rye and corn 511-512 on sorghums and other feeds 532-533 feeding	and leather, freight tonnage of rankways, 1916-1922exports, statisticsimports— by months, 1910-1922estatistics prices, by months	956
improvement, relation to milk marketing 359 transportation of milk 356-359 Hog 215-217 cholera, losses and control 215-217 "flu," symptoms and losses 218 industry, development, and changes since 1790 186-192 markets, location and annual receipts 231-233 Hogging-down crops, advantages 182, 205 Hogs 239 breeds and types, origin and description 193-199 demand, fluctuations 261 diseases, causes, and losses resulting 215-219 driving to market, early practices 228 exports 1909-1922 902 statistics 955 fattening 511-512 on rice by-products and corn 524 on rye and corn 511-512 on sorghums and other feeds 532-533 feeding 400	and leather, freight tonnage of railways, 1916–1922exports, statisticsimports— by months, 1910–1922* statistics prices, by monthsstocks on hand	956
transportation of milk 356-359	and leather, freight tonnage of railways, 1916–1922exports, statisticsimports— by months, 1910–1922statistics prices, by monthsstocks on handtrade, international, by countries	956
Cholera, Iosses and control	and leather, freight tonnage of railways, 1916-1922exports, statisticsimports— by months, 1910-1922statistics prices, by months stocks on hand trade, international, by countries	956 805 950, 967, 977 807 806 804–805
cholera, Iosses and control 215–217 "flu," symptoms and losses 218 industry, development, and changes since 1790 186–192 markets, location and annual receipts 231–233 Hogging-down crops, advantages 182, 205 Hogs 239 breeds and types, origin and description 193–199 demand, fluctuations 261 diseases, causes, and losses resulting 215–219 driving to market, early practices 228 exports 292 statistics 955 fattening 511–512 on rice by-products and corn 511–512 on sorghums and other feeds 532–533 feeding 400	and leather, freight tonnage of rankways, 1916-1922 exports, statistics imports— by months, 1910-1922 statistics— prices, by months stocks on hand trade, international, by countries— Highways— improvement, relation to milk marketing	956
#flu," symptoms and losses	and leather, freight tonnage of rankways, 1916–1922exports, statisticsimports—by months, 1910–1922statisticsprices, by monthsstocks on handtrade, international, by countriesHighways—improvement, relation to milk marketingtransportation of milk	956
industry, development, and changes since 1790 186–192 markets, location and annual receipts 231–233 Hogging-down crops, advantages 182, 205 Hogs— auction sales, advantages 239 breeds and types, origin and description 193–199 demand, fluctuations 261 diseases, causes, and losses resulting 215–219 driving to market, early practices 228 exports— 1909–1922 902 statistics 955 fattening— on rice by-products and corn 524 on rye and corn 511–512 on sorghums and other feeds 532–533 feeding—	and leather, freight tonnage of rankways, 1916–1922exports, statisticsimports— by months, 1910–1922statistics prices, by months stocks on handtrade, international, by countries Highways—improvement, relation to milk marketingtransportation of milk	956
markets, location and annual receipts 231-233 Hogging-down crops, advantages 182, 205 Hogs— 239 auction sales, advantages 239 breeds and types, origin and description 193-199 demand, fluctuations 261 diseases, causes, and losses resulting 215-219 driving to market, early practices 228 exports— 2902 statistics 955 fattening— 505 on rice by-products and corn 524 on rye and corn 511-512 on sorghums and other feeds 532-533 feeding— 400	and leather, freight tonnage of railways, 1916–1922exports, statisticsimports— by months, 1910–1922statistics prices, by monthsstocks on hand trade, international, by countries Highways—improvement, relation to milk marketingtransportation of milk Hogcholera, losses and control	956
Hogging-down crops, advantages	and leather, freight tonnage of railways, 1916–1922_exports, statistics_imports— by months, 1910–1922statistics_prices, by monthsstocks on handtrade, international, by countriesHighways—improvement, relation to milk marketing_transportation of milk Hogcholera, losses and control#iu," symptoms and losses	956
Hogs	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956 805 950, 967, 977 807 806 804-805 359 215-217 218 186-192
auction sales, advantages	and leather, freight tonnage of rankways, 1916–1922exports, statisticsimports—	956 805 950, 967, 977 807 806 804 804 356 356 215 217 218 186 192 231 231
breeds and types, origin and description 193–199 demand, fluctuations 261 diseases, causes, and losses resulting 215–219 driving to market, early practices 228 exports— 1909–1922 902 statistics 955 fattening— on rice by-products and corn 524 on rye and corn 511–512 on sorghums and other feeds 532–533 feeding—	and leather, freight tonnage of rankways, 1916–1922exports, statisticsimports—	956 805 950, 967, 977 807 806 804 804 356 356 215 217 218 186 192 231 231
demand fluctuations	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956 805 950, 967, 977 806 804 804 805 359 215 215 217 218 186 192 231 231 182, 205
diseases, causes, and losses resulting 215-219 driving to market, early practices 228 exports— 902 statistics 955 fattening— 524 on rice by-products and corn 511-512 on sorghums and other feeds 532-533 feeding— 400	and leather, freight tonnage of rankways, 1916-1922_exports, statistics_imports— by months, 1910-1922_statistics_prices, by months_stocks on hand_trade, international, by countries_Highways—improvement, relation to milk marketing_transportation of milk_Hog-cholera, losses and control_"flu," symptoms and losses_industry, development, and changes since 1790_markets, location and annual receipts_Hogging-down crops, advantages_Hogs—auction_sales, advantages_	956 805 950, 967, 977 807 806 804-805 359 215-217 218 186-192 231-233 182, 205 239
driving to market, early practices 228 exports 902 statistics 955 fattening 524 on rice by-products and corn 511-512 on sorghums and other feeds 532-533 feeding 400	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956 805 950, 967, 977 807 806 804-805 359 215-217 218 186-192 231-233 182, 205 239 193-199
exports—	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956 805 950, 967, 977 807 806 804 804 805 356 359 215 217 218 186 193 193 193
1909-1922 902 905 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955 955	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956 805 950, 967, 977 807 806 804 804 805 359 356 215 217 218 186 192 231 231 239 193 193 199 261 215 215 219
### statistics	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922_statistics_prices, by months_stocks on hand_trade, international, by countries_Highways—improvement, relation to milk marketing_transportation of milk_transportation of milk_Hog-cholera, losses and control_"flu," symptoms and losses_industry, development, and changes since 1790_markets, location and annual receipts_Hogging-down crops, advantages_lorseds and types, origin and description_demand, fluctuations_diseases, causes, and losses resulting_driving to market, early practices	956 805 950, 967, 977 807 806 804-805 359 356-359 215-217 218 186-192 231-233 182, 205 239 193-199 261 228
fattening—	and leather, freight tonnage of rankways, 1916-1922 exports, statistics imports— by months, 1910-1922 statistics— prices, by months stocks on hand— trade, international, by countries— Highways— improvement, relation to milk marketing— transportation of milk— Hog— cholera, Iosses and control— "flu," symptoms and losses— industry, development, and changes since 1790— markets, location and annual receipts— Hogging-down crops, advantages— Hogs— auction sales, advantages— breeds and types, origin and description— demand, fluctuations— diseases, causes, and losses resulting— driving to market, early practices— exports— 1900-1922	956 805 950, 967, 977 807 806 804-805 359 356-359 215-217 218 186-192 231-233 182, 205 239 193-199 215-219 228 902
on rye and corn511-512 on sorghums and other feeds532-538 feeding—	and leather, freight tonnage of rankways, 1916-1922 exports, statistics imports— by months, 1910-1922 statistics— prices, by months stocks on hand— trade, international, by countries— Highways— improvement, relation to milk marketing— transportation of milk— Hog— cholera, Iosses and control— "flu," symptoms and losses— industry, development, and changes since 1790— markets, location and annual receipts— Hogging-down crops, advantages— Hogs— auction sales, advantages— breeds and types, origin and description— demand, fluctuations— diseases, causes, and losses resulting— driving to market, early practices— exports— 1900-1922	956 805 950, 967, 977 807 806 804-805 359 356-359 215-217 218 186-192 231-233 182, 205 239 193-199 215-219 228 902
on rye and corn511-512 on sorghums and other feeds532-533 feeding—	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956
on sorghums and other feeds	and leather, freight tonnage of rankways, 1916-1922 exports, statistics imports— by months, 1910-1922 statistics— prices, by months stocks on hand trade, international, by countries— Highways— improvement, relation to milk marketing transportation of milk— Hog— cholera, losses and control— "flu," symptoms and losses— industry, development, and changes since 1790— markets, location and annual receipts— Hogging-down crops, advantages— lings— auction sales, advantages— breeds and types, origin and description— demand, fluctuations— diseases, causes, and losses resulting— driving to market, early practices— exports— 1909-1922 statistics— fattening— on rice by-products and corn	956 805 950, 967, 977 807 806 804-805 359 356-359 215-217 218 186-192 231-233 182, 205 239 193-199 261 215-219 228 902 955
feeding—	and leather, freight tonnage of rankways, 1916-1922 exports, statistics imports— by months, 1910-1922 statistics prices, by months stocks on hand trade, international, by countries Highways— improvement, relation to milk marketing transportation of milk Hog- cholera, Iosses and control— "flu," symptoms and losses— industry, development, and changes since 1790— markets, location and annual receipts— Hogging-down crops, advantages— Hogs— auction sales, advantages— breeds and types, origin and description— demand, fluctuations— diseases, causes, and losses resulting— driving to market, early practices— exports— 1909-1922 statistics— fattening— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn— on rice by-products and corn—	956 805 950, 967, 977 807 806 804-805 359 356-359 215-217 218 186-192 231-233 182, 205 215-219 228 902 955
barley, comparison with corn499 Oats and corn experiments and comparisons485	and leather, freight tonnage of rankways, 1916-1922 exports, statistics imports— by months, 1910-1922 statistics prices, by months stocks on hand trade, international, by countries Highways— improvement, relation to milk marketing transportation of milk Hog— cholera, Iosses and control— "flu," symptoms and losses— industry, development, and changes since 1790— markets, location and annual receipts— Hogging-down crops, advantages— Hogs— auction sales, advantages— breeds and types, origin and description— demand, fluctuations— diseases, causes, and losses resulting— driving to market, early practices— exports— 1900-1922 statistics— fattening— on rice by-products and corn— on rye and corn— on rye and corn— on sorghums and other feeds—	956 805 950, 967, 977 807 806 804-805 359 356-359 215-217 218 186-192 231-233 182, 205 215-219 228 902 955
nets and corn experiments and comparisons 485	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956 805 950, 967, 977 807 806 804-805 356-359 215-217 218 186-192 231-233 182, 205 215-219 228 902 955 524 511-512 532-533
	and leather, freight tonnage of rankways, 1916–1922_exports, statistics_imports— by months, 1910–1922	956 805 950, 967, 977 807 806 804-805 359 356-359 215-217 218 186-192 231-233 182, 205 215-219 228 902 955 524 511-512 532-533

ogs—Continued.	
feeding—continued.	Page.
use of self-feeder	
With 1.2.6	511
freight	
rates, Chicago to New York, 1896-1922, graph	252
rates for several routes, 1900–1923	_ 1016-1017
tonnage of railways, 1916-1922	1012
gain of 100 pounds, equivalent in corn	225-227
importance as source of food	181-184
imports, statistics	949
industry, outlook	
losses—	
from cholera, 1913-1922	216
from disease, 1888-1923	890
from tuberculosis, 1907–1922	217_219
in shipments to market, graphs	200 200
market—	200, 201
movements, effect of climatic conditions	945 949
prices, by monthsreceipts and shipments, 1900–1922	G88-7118
	898-899
marketing—	001 000
costs	264-268
history, methods, factors, and problems	227-264
number—-	
and value on farms, by States	
relation to population, 1840-1920.	
numbers on farms, 1840–1920, discussion and statistics	
price and purchasing power, 1845-1922, graph	244
prices	
and corn prices, relation to hog receipts, graph	260
and pork exports, 1915-1922, graph	249
compared to cattle and lambs, 1913-1922, graph	242
factor of marketing	241-245
fluctuations, problem of marketing	256-259
increase	
on farm, by States and by months	
ratio to corn prices, 1910–1921	
variations, 1844–1922, graph	240
production—	
and marketing, article by E. Z. Russell, S. S. Buckley,	OT
Baker, C. E. Gibbons, R. H. Wilcox, H. W. Hawthorne,	C XXI
Monday O C Stine C W Helmon A W Sweethart	ירו. ۲۷. מד מאד
Mendum, O. C. Stine, G. K. Holmes, A. V. Swarthout, Bell, G. S. Jamieson, C. W. Warburton, and C. F.	W. D.
men, c. S. Jameson, C. W. Warburton, and C. F.	104 000
worthy	181-280
cost	220-227
for market	201-202
for use on farms182,	
in Corn Belt farming systems	202-206
in world countries, maps	
on farms in South	206-208
relation to corn crop, 1919, graph	212
relation to diversified farming	207
relation to farm systems	199–209
profits in Corn Belt farms	203
pure-bred, numbers on farms	194-196
raising, relation to corn crop	209-214
receints—	
at public stockyards, 1916-1921	232
monthly, at stockyards, graph	245
sales to local buyers, butchers, or packers, methods	998_995
shipments—	004 007
from producers	234-230
losses, shrinkage, etc	903-905
shipping, cooperative organizations, costs, statistics	265-267

		_	
Hogs—Continued.			
shrinkage		1	Page.
in handling		255	. 267
in simplient"			905
situation, monthly		896	-897
SHRUPHER			
on forms for home meat supply		269	-270
" under inspection,			912
standardization, need in marketing		261	-264
statistics			
census figures, 1840-1920			192
number, prices, etc		889	-908
stockyards, receipts and shipments	899	-901.	.913
tariff duties, summary		279	-280
types, preferences and changes		196	-197
weight			
at Chicago market, by months, 1913-1922		235.	902
live and dressed			903
weights, at leading markets, 1921, graphs			233
world, numbers by countries			-801
HOLMES, G. K., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E.	GIBBON	īs.	
R. H. WILCON, H. W. HAWTHORNE, S. W. MENDUM, O. C. ST			
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON,			
LANGWORTHY, article on "Hog production and marketing"		181	-280
Holstein cow, champion butter-fat producer			330
Home-			
Economics, proposed new bureau			34
meat supply, hog slaughter on farms		269	-270
Honey—			
exports, statistics			955
imports, statistics			949
plant, buckwheat			549
production increase, suggestion			1001
Hops			
consumption and movement, 1910–1922			750
crops of 1920–1922, summary			984
A ST TANK THE CO.			
1010,1099			750
and and Excel Excel	959, 961	964	,974
toroien countries production and trade		. 141	, 791
harvest season			988
Zween country			
1010 1000			750
and an of South School	953,	эот,	965
1012_1099			101
statistics accours production etc.		149	-751
trade international by countries			IOT
was a supplied by countries			749
Hornworms, tobacco species, crop injury, and control			422
Transcore			
and mules, freight tonnage of railways, 1916–1922			1012
and the second s			
1 2000 1001			817
statistics		. 955	, 969
Annual Control of the			
and volve by States		812	-814
at attacking of down war.	. 1010, 1	UIU .	10.10
feeding oats, value and ration		483	, 485
9 mar			
imports— and prices, 1896–1921			817
		. ジェン	, 977
market receipts, 1900–1922			815
prices— by ages and classes			913
the Chatag and by months			814
export and import, 1896–1921			817
export and import, root rearrangement			

104 Yearbook of the Department of Agriculture, 1922.

Horses—Continued.	
statistics—	Page.
number, value, etc., 1870-1923	
of plowing, etc	
stockyard receipts, 1915–1922	816_817
world, numbers by countries	
Hullers, statistics of manufacture and sale	1025°
Huskers, statistics of manufacture and sale	
Husking, corn, statistics of day's work	1057
[ce cream—	
marketing, remarks	365
production in United States	293, 297
TISC-	840
early, and factory productionincrease	
Idaho-	<i>i</i> 01
cold-storage space, 1922	1019
farm—	
expenses	
mortgage debtoperators, nativity	
population, lands, etc., in 1920	
farmer's food supply, sources	
farms, classification by size	1008
flaxseed production, 1889–1899	540
forest fires, causes, size, damage, and area, 1921 wages on farm, 1913 and 1922	
Illinois—	996
cold-storage space, 1922	1019
farm—	
expenses	
labor, hours in day	
mortgage debt	
population, lands, etc., in 1920	1009
farmers' food-supply sources	999, 1000
farms, classification by size	
flaxseed, production, 1869	
forest fires, causes, size, damage, and area, 1921hog—	952, 851
production cost	220-223
shipments, 1918	231
rank in dairying	
rye production, 1850-1889statistics of day's work for horses	
taxes on farm real estate	
wages on farm, 1913 and 1922	
Implements, farm expenses, by States	
Imports—	00° 000 0° 000
agricultural products, statistics 949-955, 961, barley, 1849-1908	
cattle, statistics	
confee, statistics	OH - 110- 110- 086
cotton, statistics	
dairy products—	000 000
rates of tariff duty, 1789-1922 statistics	049-390
fibers, vegetable, statistics	951, 961, 979
farseed, statistics 537-538.	656, 954, 966, 980
forage plant seeds, 1911–1921, by kinds	701
forest products, statistics951-952,	961, 968, 981, 982
fruits, statistics	
grain, statisticsgums, statistics	951, 961, 968
guins, out distributions and a second	

	Page.
Imports—Continued. hides and skins, statistics	950, 967, 977
hides and skins, statisticshops, statisticshops, statisticshops, statistics	953, 961, 965
nops, sections	817, 949, 977
normen, marinetti saaraa	952, 968, 981
idimiter, statistics	990
meat, statistics	953, 961
nuts, statistics	620
Uats, 1015-1742	272, 953, 961, 980
oats, 1849–1922 oils, vegetable, statistics	954, 961, 980
secti, statistics	870.949
sheep, statistics spices, statistics	954, 961
spices, statisticssugar, statisticstelegrap	954, 961, 966, 930
tobacco—	140, 450
historical notes	054 061 065 981
tobacco— historical notes statistics	904, 901, 909, 901
vegetable—	1029-1032
vegotable— oils	708
Sectio, 1010-1022	904, 901
vegetables, statistics	952 961 968 981
vegetables, statisticswood pulp, statistics	949, 961, 965, 977
Winn, Milliottes	
Inuck numbers	27:7:3
rop and meat animal prices freight rates	1011, 1013-1018
Height Lates	
1111111	OLT.
India— British, rice production, 1900–1921 flaxseed, production and exports————————————————————————————————————	534-535
DUASCEG, DIOGUCLIOH MIG CADULO	و شرق (فرک(ف
gram sorgnums, production, acreage, and uses	513-314
r doner	331, 300, 301
world trade, 1909–1921, by countries	1010
world trade, 1909–1921, by countriesrupee, exchange rates, 1919–1922	
Indiana— cold-storage space, 1922— dairying, cost of keeping cow and producing milk—— farm—	1019
cold-storage space, 1922	346, 347, 348
dairying, cost of keeping cow and producing milk	
A.C.A. AAA	1000, 1000, 200
mortgage debt	1004
operators' nativity	999, 1000
farms—	204 205
farms— classification by size organization, crops and live stock flexseed production, 1859-1879	539
organization, crops and live stock	932, 937
forcet fines aureos sizo dumage and area 1921	231
forest fires, causes, size, damage, and area, 1921———————————————————————————————————	506, 507
rye production, 1909-1919	996
wages on farms, 1913 and 1922Indo-China, French, rice productionInformation Service, reorganization	513, 514
Indo-China, French, rice production	56, 57
Indo-China, French, rice productionInformation Service, reorganizationInsert pests, control work	31–33
Information Service, reorganizationInsect pests, control work	543
Insects— flax, control	491 169_164
are to him	509
forest, damage and cooperative control	422, 423
rice, habitstobacco, description, injury and control	,
conscions approximation and and	

Federal, uniformity		
oats (28 shipping point, and receiving point 21, 22 nspectors, oat, note 483 owa— 483 cold-storage space, 1022 1019 furne— evpenses 1005, 1006, 1007 mortgage debt 1003 operators nativity 1003 population, lands, etc., in 1920 1003 farmers' food-supply sources 995, 1009 farmers' food-supply sources 995, 1009 farseed production, 1879-1919 330-541 grain sorghum, acreage, etc., 1922 528, 529 hog- production cost 220-223 shipments, 1918 231 hors 290, 300 rye production, 1839-1870 504, 505 taxes on farm real estate 1002 trigation— 4a)'s work in sugar beets 1067 rice, requirements 518 site, imports, statistics 951 wory, vegetable, imports, statistics 951 wory, vegetable, imports, statistics 951 and, t. F. Languoverty, article on "Hog production and marketing" 181-280 <th>inspection—Continued.</th> <th>_</th>	inspection—Continued.	_
Shipping point, and receiving point	onts	628
1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019 1019	shipping point, and receiving point	21. 22
Cold-storage space, 1922	inspectors, oat, note	
### Cappenses	0W8-	
expenses		1019
mortgage debt		VIG 1007
operators, nativity 103 population, lands, etc., in 1920. 103 population, lands, etc., in 1920. 103 farmers' food-supply sources. 959, 1000 farms, classification by size. 1008 ffaxseed production, 1879-1919. 599-541 grain sorghum, acreage, etc., 1922. 528, 529 long— production cost. 220-223 shipments, 1918. 231 hors, numbers, and per cent of farm receipts. 290, 300 rye production, 1869-1879. 504, 505 taxes on farm real estate. 1002 rrigation— day's work in sugar beets. 1067 rice, requirements. 518 stle, imports, statistics. 951 AMIESON, G. S., E. Z. RUSSPLI, S. S. RUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCON, H. W. HAWTHONNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, C. W. WABBURTON, and C. F. LARGWORTHY, article on "Hog production and marketing" 181-280 apan, rice production. 513, 514 ersey cow, champion bufter-fat producer. 331 ute, imports, statistics. 951, 965, 966, 979 uve, O. A.— O. C. STINE, A. E. WIGHT, A. J. PISTOR, C. F. LANGWORTHY, C. W. LARSON, and L. M. DAVIS, article on "The dairy industry" 281-394 W. J. SPILLMAN, C. R. BALL, T. R. SYANTON, H. V. HARLAN, C. B. LEIGHTY, C. E. CHAMBURS, A. C. DILLMAN, O. C. STINE, and D. E. BAKER, article on "Outs, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 550 cold storage space, 1922. 1019 farm— expenses 500 cold storage space, 1922. 1019 farm— expenses 500 cold storage space, 1922. 1019 farm— expenses 500 cold storage space, 1922. 1019 farm— expenses 500 cold storage space, 1922. 1019 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 909, 1000 farmers' food-supply sources 90		
population, lands, etc., in 1920		
farns, classification by size		
flaxseed production, 1579-1919. 539-541 grain sorglum, acreage, etc., 1922. 528, 520 log		
grain sorglum, acreage, etc., 1922	farms, classification by size	1008
Production cost	maxseed production, 1879–1919	039-541 590 590
Production cost. 220-223 Shipments, 1918 231 hors, numbers, and per cent of farm receipts 202 rank in dairying 299, 300 rye production, 1869-1879 504, 505 taxes on farm real estate 1002 rigation 202 203 day's work in sugar beets 1007 rice, requirements 518 stle, imports, statistics 951 vory, vegetable, imports, statictics 951 AMIESON, G. S., E. Z. RUSSELL, S. S. RUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCON, H. W. HAWTHONNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, C. W. WABBUERON, and C. F. LANGWOETHY, article on "Hog production and marketing" 181-280 apan, rice production 513, 514 ava. tice production 513, 514 ava. tice production 513, 514 ava. tice production 513, 514 ava. tice production 513, 514 ersey cow, champion bufter-fat producer 951, 965, 906, 979 UVE, O. A. O. C. STINE, A. E. WIGHT, A. J. PISTOR, C. F. LANGWOETHY, C. W. LARSON, and L. M. DAVIS, article on "The dairy industry" 281-394 W. J. SPILLMAN, C. R. BALL, T. R. STANTON, H. V. HAMLAN, G. E. LEIGHTY, C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, and O. E. BAKER, article on "Onts, barley, rye, rice, grain sorghums, seed flax, and buckwheat" 469-568		028, 1129
hogs numbers and per cent of farm receipts	production cost	220 – 223
rank in dairying	shipments, 1918	231
rye production, 1869–1879	hogs, numbers, and per cent of farm receipts	202
takes on farm real estate	rank in dairying	299, 300
Trigation		
day's work in sugar beets	rrigation—	
518 stle, imports, statistics	day's work in sugar beets	1067
WOTY, vegetable, imports, statictics	rice, requirements	518
AMIESON, G. S., E. Z. RUSSELL, S. S. RUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280 apan, rice production		
GIBBONS, R. H. WILCOX, H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES, A. V. SWARTHOUT, W. B. BELL, C. W. WARBURTON, and C. F. LANGWORTHY, article on "Hog production and marketing" 181–280 apan, rice production	vory, vegetable, imports, statictics	991
cost of production, variation with region 554 market receipts, 1909-1922, by months. 665 fafirs, introduction from Africa 527-528 lansas— barley growing, increase 500 cold storage space, 1922 1019 farm— expenses 1005, 1006, 1007 mortgage debt. 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flaxseed production, 1879-1919 539-541 grain sorghums, early introduction, etc 525, 526, 527, 528, 529 rank in dairying 290 rye production, 1889 505 wages on farm, 1913 and 1922 996 laoliang— production and uses— 527	apan, rice production ava, tice production ersey cow, champion butter-fat producer ute, imports, statistics O. A.— O. C. Stine, A. E. Wight, A. J. Pistor, C. F. Langworthy, C. W Larson, and L. M. Davis, article on "The dairy industry" W. J. Spillman, C. R. Ball, T. R. Stanton, H. V. Harlan, C. I Leighty, C. E. Chambliss, A. C. Dillman, O. C. Stine, and O. I Baker, article on "Oats, barley, rve, rice, grain sorghums, see	513, 514 513, 514 331 966, 979 7. 281–394 6. d.
market receipts, 1909-1922, by months	lafir—	
fafirs, introduction from Africa 527–528 iansas— 500 cold storage space, 1922 1019 farm— expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flaxseed production, 1879–1919 539–541 grain sorghums, early introduction, etc 525, 526, 527, 528, 529 rank in dairying 290 rye production, 1889 505 wages on farm, 1913 and 1922 996 Iaoliang— 527 production and uses 527	cost of production, variation with region	_ 554
lansas— 500 cold storage space, 1922 1019 farm— expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flaxseed production, 1879-1919 539-541 grain sorghums, early introduction, etc 525, 526, 527, 528, 529 rank in dairying 290 rye production, 1889 505 wages on farm, 1913 and 1922 996 laoliang— 527	market receipts, 1909-1922, by months.	_ 000 527_528
barley growing, increase	lansas—	021-020
farm—	barley growing, increase	_ 500
expenses 1005, 1006, 1007 mortgage debt. 1004 operators, nativity 1009 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flaxseed production, 1879-1919 539-541 grain sorghums, early introduction, etc 525, 526, 527, 528, 529 rank in dairying 299 rye production, 1889 505 wages on farm, 1913 and 1922 996 [aoliang————————————————————————————————————		_ 1019
mortgage debt		WG 1007
operators, nativity		
population, lands, etc., in 1920		
farms, classification by size	population, lands, etc., in 1920	1009
flaxseed production, 1879–1919	farmers' food-supply sources9	99, 1000
grain sorghums, early introduction, etc	flargood production 1970 1010	1008
rank in dairying	grain sorphilms, early introduction atc. 595 596 597	598 599
rye production, 1889	rank in dairving	290
[aoliang—production and uses	rye production, 1889	_ 505
production and uses527	wages on farm, 1913 and 1922	_ 996
See also Sorghums, orain.	anduction and uses	507
	See also Sorghums, orain.	_ 041

Kapoc, imports, statistics	Page.
Kantucky	
cold storage space, 1922	1019
farm- expenses100	E 1000 100E
mortgage debt	5, 1006, 1007
operators, nativity	1004 1003
population, lands, etc., in 1920	1009
farmers' food-supply sources	999 1000
farms, classification by size	1008
flaxseed production, 1849.	539
forest fires, causes, size, damage, and area, 1921rye production, 1839-1869	932, 937
wages on farm, 1913 and 1922	504 996
KITTREDGE, J., JR., W. B. GREFLEY, EARLE H. CLAPP, HERBERT A. S	MITH.
RAPHAEL ZON, W. N. SPARHAWK, and WARD SHEPARD, article on "	Tim-
ber: Mine or crop?"	
Labor-	
buckwheat production	559
for grain sorghums	557
in milk production.	
relation to farm prices and conditions	5. 9
distribution in day, in dairying, by months	350, 351
employment, relation to timbered forests	105
farm	- O -
day's length, by States	
expenses, by Statessupply and demand	
wages, by classes, 1910–1922	997
wages, by classes and States, 1913 and 1922	996
flax growing.	558
rice production variation in cost, remarks	556
statistics of day's work in corn and other crops	1046-1078
tobacco production, distribution	426-428 284
utilization in dairyingLamb, consumption, total and per capita, 1907–1922	209 810_811
Lamber	
market prices, by months	878
T119144415	
comparison with cattle and hogs, 1913-1922, graph	242
on form by mouths	012
production, and per cent of all meats, 1907-1922	809
Land- agricultural, future needs and outlook	91-93
buckwheat, note	567
there also were there are a con-	əəə
milion water of furm losses	c
talanan pertul ahoreres	
was realized discussion and innormalice	
waste, timber production, feasibility and need	150-140
Lands-	1006
farm expenses, by Statespublic, classification need	37
waste, returns from forestation	144-156
7	
CONTRACT TO MAN TO A VITE O C STINE, A. E. W.	GHT,
and A 7 Dromon article on "The dairy industry	
TO THE THEORY OF G. INTOTATION (1) BY HAKER, U. FA. CHODUNG.	14. 11.
WILLIAM TO WE TANKETOONE S W MENDUM. O. C. STANE,	C. 17.
HOLMES, A. V. SWARTHOUT, W. B. BELL, G. S. JAMIESON, and WARBURTON, article on "Hog production and marketing"	
Warrington, article on "Hog production and marketing Laphygma frugiperda, habits	519
Lapaygma [rugiperaa, maries	

Yanah	Da
Larch— lumber production, by States, 1920	Page. 522
sawfly, distribution	163
Lard—	700
cold-storage holdings, 1916-1922, graph	254
compound, composition	271
compounds, exports, statistics 956, 96	3.970
demands of foreign markets	273
exports—	
1910–1922, by months	908
statistics 956, 963	, 971
market prices— by months	000
wholesale and retail, 1913–1922	909
production—	895
and substitutes27	0_979
estimates, 1900–1921	276
increase, suggestion	1001
relation to vegetable oils27	
storage holdings, 1916-1922, by months	909
substitutes, production and constituents27	0-272
use as food18	4-186
LARSON, C. W., L. M. DAVIS, O. A. JUVE, O. C. STINE, A. E. WIGHT, A. J.	
PISTOR, and C. F. LANGWORTHY, article on "The dairy industry" 28	1-394
Lasioderma serricorne, injury to manufactured tobacco	423
Laws—	
control of dairy products	337
tobacco—	0 150
tariff, 1789-192245 taxes, 1862-192146	
Lead arsenate, use against tobacco insects42	0 100
Legislation—	£-143
forest, recommendations by Secretary	26_22
helpful to farmers	
Leguminous hay. See Hay.	12 10
LEIGHTY, C. E., C. E. CHAMBLISS, A. C. DILLMAN, O. C. STINE, O. E.	
BAKER, O. A. JUVE, W. J. SPILLMAN, C. R. BALL, T. R. STANTON, and	
H. V. Harlan, article on "Oats, barley, rye, rice, grain sorghums, seed	
flax, and buckwheat"46	9-568
Lemons—	
exports, statistics	958
imports, statistics95	
price wholesale, by months	746
shipments, by carlots	745
Lettuce, shipments, carlots, by States	771
Lifters, beet, statistics of manufacture and sale	1025
Line-	1020
spreaders, statistics of manufacture and sale	1026
supply—	1,020
for dairy cow in legume hays, note	334
to human body, by milk, etc28	
Linseed—	
Association, New York, grading flaxseed	545
meal—	
feed use and value	546
prices at 12 markets	697
oil	
imports, statistics	953
manufacture	535
mills, location 54	
prices at New York, 1910-1923, by months	654
trade, international	1032
Liquors—	
alcoholic— exports, statistics95	0 081
imports, statistics	00 001

Lissorhoptrus simplex, habits	T 08C.
Listern ptrus symptex, nabits	519
Listers, statistics of manufacture and sale	1027, 1028
Live stock—	
farm expenses by States	1006
feeding	
barley	499
oats, rations, and value	
on grain sorghums and corn	
marketing, studies	17_10
markets, early	
prices by ages and classes	
reporting service	18-19
shipping associations, cooperative, hogs, marketing	287-239, 265-267
situation, monthly 831-832,	, 876–877, 896–897
slaughter under inspection	913
statistics, production, prices, etc	795–801
stockyards, receipts and shipments	
value by States	912
world, numbers, by countries	795-801
Loaders, statistics of manufacture and sale	1024
Loaders, statistics of manufacture and safe	923
Lodgepole, lumber production, by States, 1920	Jao
Louisiana-	1010
cold-storage space, 1922	1019
darrying, cost of keeping cow and producing milk	346, 347, 348
farn—	
expenses	1005, 1006, 1007
mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920	1009
population, rands, etc., in 1920	000 1000
farmers' food-supply sources	1000
farms, classification by size	1000
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	933, 937
111(4)	
growing, development	567
production in 1839-1919	515-517
enger statistics 1911–1922	781
wages on farm, 1913 and 1922	996
ramps, demand for cheese	365
exports, statistics	057 068 975-976
	201, 200, 210-219
freight—	115 110
charges in 1920	119, 110
mutoc hunk atc	11:)—110
imports statistics	952, 968, 981
industry effect of forest depletion	95–91
prices, factors influencing	119–123
many district in the second	
by species, 1899–1920	918-920
by States, 1870–1920	914-917
by States and by species, 1920	920-928
by States and by species, 1920	929
of minor species, by States	
value by States, 1840, 1850, 1860, 1920	500
timber equivalent of annual cut	109
	0.017
Macaroni, imports, statistics	967
Machinary-	
formation or angle har States	1006
Any amorring goet	203
Mailing list, Publications Division, revision	45
	•
Maine—cold-storage space, 1922	1018
farm—	1005 1000 1007
expenses	1005, 1006, 1004
mortgage debt	TOO

Maine—Continued.	•
farm—continued.	Page,
operators, nativity	
population, lands, etc., in 1920 farmers' food-supply sources	1009
forms, classification by size	1000
forest fires, causes, size, damage, and area, 1921	931 925
taxes on farm real estate	
wages on farms, 1913 and 1922 Mult, exports, statistics	996
Malted milk. See Milk, condensed.	
Manchuria, grain sorghums, production and uses	525, 527
Mangers, statistics of manufacture and sale	1026
Manila, imports, statistics Manufactures, freight tonnage of railways, 1916–1922	951, 966, 979
Manure—	
cost for grain sorghums	
distribution, statistics of day's workspreaders, statistics of manufacture and sale	
Maple—	1026
lumber production by States, 1920	924
sugar—	200 00
prices, by monthsproduction, by States	788
statistics, 1839–1922	787-788
See also Sugar.	
Market—	904 905
butter, making prices from exchange salesexchanges, quotation committees under ban	
information, need in hog marketing	
milk. See Milk, market.	
news service— extension and use of radio	00.00
importance to producers	22-23 264
Marketing-	
cheese, discussion	
cooperative, of hogscosts, investigations	
dairy products, discussion	
flaxseed	543-545
grain sorghums	530-532
hogs	264-268
history, methods, factors, and problems	227-264
methods	
problemslive stock and meats, studies	
machinery, importance to hog producer	
milk	
producers' organizations	
retail cost itemsrice, methods	500, 50J. 520, 522
rye	509, 510
tobacco, preparation, methods, etc	433-450
Markets—	635
barley receipts and pricescentral, facilities, factors in hog marketing	
corn receipts and shipments, 1910-1929	578, 579
cotton prices, future and spot, 1914-1923, by months	
dairy products, earlyflaxseed—	502
location	544
receipts, 1910–1923	655
forage-plant seed, receipts and shipments	701, 702
foreign— competition and demands	18
CANTILOGICAM MITTER MOTHER TON COMMENT OF THE COMME	

Bayreless-Continued. Page receipts, 1910-1922, by months	Manhaka Cuntimus A	
receipts, 1910-1922, by months. 689, 698 shipments, 1910-1922, by months. 691 hog, location and annual receipts. 231-23; kafir receipts, by months. 687 milk, supply by truck in large cities. 357 oats receipts and shipments, 1909-1922. 282, 627 receipts of fruits and vegetables, by months. 776, 777 rye— location	Markets—Continued.	Dago
Shipments, 1910-1922, by months 691		
hog. location and annual receipts 231-28; kafir receipts, by months 668; milk, supply by truck in large cities 365; outs receipt and shipments, 1909-1922 626, 627; receipts of fruits and vegetables, by months 776, 777; receipts, 1909-1921 642-643; Maryland 642-643; Maryland 642-643; mortgage debt 952 1019; farm 643-644; expenses 1005, 1006, 1007; mortgage debt 1004, 1004; population, lands, etc., in 1920 1009; population, lands, etc., in 1920 1009; farmer's food-supply sources 999, 1000; farmer's food-supply sources 999, 1000; farmer's food-supply sources 999, 1000; farmer's food-supply sources 999, 1000; farmer's food-supply sources 999, 1000; farmer's food-supply sources 999, 1000; farmer's food-supply sources 1005, 1006, 1007; production, 1839-1859 504; farm 604, 505, 1006, 1007; expenses 1005, 1006, 1007; mortgage debt 1004; operators, nativity 1003; population, lands, etc., in 1920 1009; farmer' food-supply sources 999, 1000; farmer' food-supply sources 999, 1000; farmer' food-supply sources 999, 1000; farmer' food-supply sources 999, 1000; forest fires, causes, size, damage, and area, 1921 931, 935; pre production, 1839-1849 504; tuves on farm real estate 1002; wwiste-pinc forestry, profitableness 158-154; Meal, corn, exports 999, 1000; food supply of farm, sources 1000; food supply of farm, sources 999, 1000; forest fires, causes, size, damage, and area, 1921 931, 935; pre production, 1839-1849 504; tuves on farm 1913 and 1922 996; white-pinc forestry, profitableness 158-154; Meal, corn, exports 999, 1000; food supply of arm, sources 999, 1000; former's, statistics 956, 962, 963, 970, 971; grades and standards 200; grades and standards 200; grades and standards 200; grades and standards 200; grades and standards 200; grades and standards 200; grades and standards 200; grades and standards 200;	shipments, 1910–1922, by months	691
kafir receipts, by months	hog, location and annual receipts	231-239
milk, supply by truck in large cities	kafir receipts, by months	66E
receipts of fruits and vegetables, by months	milk, supply by truck in large cities	357
Page		
location		776, 777
Receipts, 1900-1921 642-643		E10
Maryland	recents 1909-1921	010 649-649
Maryland	Marrons, imports statistics	953
farm— mortgage debt 1005, 1006, 1007 mortgage debt 1009 operators, nativity 1000 population, lands, etc., in 1920 1009 farmer's food-supply sources 999, 1000 iarms, classification by size 1008 iorest fires, causes, size, damage, and area, 1921 932, 936 rye— growing, early history 503 production, 1839–1859 505 production, 1839–1859 505 Massachusetts— 1002 wages on farm 1913 and 1022 996 Massachusetts— 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1004 operators, nativity 1006 farmers' food-supply sources 999, 1008 farmers' food-supply sources 999, 1008 ford supply of farm, sources 1008 food supply of farm, sources 1008 food supply of farm, sources 1008 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Meul, corn, exports 153–144 Meul, corn, exports 153–145 Meul, corn, exports 259, 963 Meat— 260 by kinte-pine forestry, profitableness 153–145 Meul, corn, exports 260 production— 260 by kints, 1007–1922 809 from dairy cattle 284, 38, 383 situation, monthly 831–832, 876–877, 896–897 source, importance of logs 200 Meuts— 284, 38, 383 situation, monthly 831–832, 876–877, 896–897 source, importance of logs 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200	Maryland—	
farm— mortgage debt 1005, 1006, 1007 mortgage debt 1009 operators, nativity 1000 population, lands, etc., in 1920 1009 farmer's food-supply sources 999, 1000 iarms, classification by size 1008 iorest fires, causes, size, damage, and area, 1921 932, 936 rye— growing, early history 503 production, 1839–1859 505 production, 1839–1859 505 Massachusetts— 1002 wages on farm 1913 and 1022 996 Massachusetts— 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1004 operators, nativity 1006 farmers' food-supply sources 999, 1008 farmers' food-supply sources 999, 1008 ford supply of farm, sources 1008 food supply of farm, sources 1008 food supply of farm, sources 1008 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Meul, corn, exports 153–144 Meul, corn, exports 153–145 Meul, corn, exports 259, 963 Meat— 260 by kinte-pine forestry, profitableness 153–145 Meul, corn, exports 260 production— 260 by kints, 1007–1922 809 from dairy cattle 284, 38, 383 situation, monthly 831–832, 876–877, 896–897 source, importance of logs 200 Meuts— 284, 38, 383 situation, monthly 831–832, 876–877, 896–897 source, importance of logs 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200 markeding studies 200	cold-storage space, 1922	1019
mortgage debt	farm—	
Operators, nativity		
population, lands, etc., in 1920 1000 farms, classification by size 1008 1000 farms, classification by size 1008 1008 1009 1000 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009 1009	mortgage debt	1004
farmer's tood-supply sources	operators, nativity	1008
farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 986 rye growing, early history 503 production, 1830-1859 504 taxes on farm real estate 1002 wages on farm 1913 and 1922 996 Mussachusetts 206 cold-storage space, 1922 1018 farm 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1830-1849 504 taxes on farm real estate 1002 wages on farm and 1922 996 white-pinc forestry, profitableness 153-154 Meal, corn, exports 959, 963 Nieat 950 consumption, total and per capita, 1907-1922 810-811 exports, statistics		
forest fires, causes, size, damage, and area, 1921	farms classification by size	1000
growing, early history 503 production, 1839–1859 504 taxes on farm real estate 1002 wages on farm 1913 and 1922 996 Massachusetts— cold-storage space, 1922 1018 tarm— expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 white-pine forestry, profitableness 153–154 Meal, corn, exports 959, 963 Nieat— consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics—950 packers, butter brands, note—925 packing centers, location, relation to freight rates—230 production— by kinds, 1907–1922 809 from dairy cattle—284, 338, 339 situation, monthly—831–832, 878–877, 896–897 source, importance of hogs—181–184 supply for homes, hogs slaughtered on farms—269–270 trade, international, 1911–1921, by countries—808 Meats— condemned under inspection—913 exports, statistics—956, 962, 963, 970, 971 grades and standards—900 marketing studies—17–18 prices, wholesale, by months—91001 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911 production increase, susgestion—9 incontents—910-911	forest fires, causes, size, damage, and area 1921	982 986
Droduction, 1839–1859 504 taxes on farm real estate 1002 wages on farm 1913 and 1022 996 Massachusetts 296 Cold-storage space, 1922 1018 farm expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1912 and 1922 996 white-pine forestry, profitableness 153–154 Meal, corn, exports 959, 963 Meat 249–251 consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production 243, 383, 339 situation, monthly 831–832, 876–877, 896–897 source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats 200 condemned under inspection 918 condemned under inspection 918 condemned under inspection 918 condemned standards 200 marketing studies 17–186 prices, wholesale, by mooths 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production increase, suggestion 910–911 production in		
taxes on farm real estate		
wages on farm 1913 and 1922 996 Massachusetts— 1018 cold-storage space, 1922 1018 farm— 2005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 990, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1912 and 1922 996 white-pine forestry, profitableness 153–154 Meal, corn, exports 959, 963 Mieat— 200 consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics 950 packing centers, location, relation to freight rates 230 production— 809 from dairy cattle 284, 338, 338 situation, monthly <td< td=""><td></td><td></td></td<>		
Massachusetts— cold-storage space, 1922 1018 farm— expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taves on farm real estate 1002 wages on farm 1912 and 1922 996 white-pine forestry, profitableness 153–154 Meal, corn, exports 153–154 Meal, corn, exports 959, 963 Meat— consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production— by kinds, 1907–1922 809 from dairy cattle 284, 338, 339 situation, monthly 831–832, 876–877, 896–897 source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats— condemned under inspection 913 exports, statistics 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17–18 prices, wholesale, by months 910–911 production increase, suggestion 1001	taxes on farm real estate	1002
Cold-storage space, 1922		996
farm— expenses		9101
expenses		1018
mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1912 and 1922 996 white-pine forestry, profitableness 153–154 Meal, corn, exports 959, 963 Meat— consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics 950 packers, butter brands, note 950 packers, butter brands, note 950 packers, butter brands, note 950 production— by kinds, 1907–1922 809 from dairy cattle 284, 338, 330 situation, monthly 831–832, 876–877, 896–897 source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats— condemned under inspection 913 exports, statistics 956, 962, 963, 970, 971 grades and standards 950 marketing studies 910–911 production increase, suggestion 91001	expenses	1005 1006 1007
operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 981, 935 rye production, 1839-1849 504 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 white-pine forestry, profitableness 153-154 Meal, corn, exports 959, 963 Nieat— consumption, total and per capita, 1907-1922 810-811 exports, comparison of beef, mutton, and pork 249-251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production— by kinds, 1907-1922 809 from dairy cattle 284, 338, 330 situation, monthly 831-832, 876-877, 896-897 source, importance of hogs 181-184 supply for homes, hogs slaughtered on farms 269-270 trade, international, 1911-1921, by countries 808 Meats— condemned under inspection 913 exports, statistics 956, 962, 963, 970, 971 grades and standards 950 marketing studies 17-18 prices, wholesale, by months 1001	mortgage debt	1004
Dopulation, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 faves on farm real estate 1002 wages on farm, 1912 and 1922 996 white-pine forestry, profitableness 153–154 Meal, corn, exports 959, 963 Nieat consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production 284, 338, 339 situation, monthly 831–832, 876–877, 896–897 source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Mleats 200 marketing studies 200 marketing studies 17–18 prices, wholesale, by months 910–911 production increase, suggestion 1001		
farms, classification by size 1008 food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839-1849 504 taxes on farm real estate 1002 wages on farm, 1912 and 1922 996 white-pine forestry, profitableness 153-154 Meal, corn, exports 959, 963 Meat— consumption, total and per capita, 1907-1922 810-811 exports, comparison of beef, mutton, and pork 249-251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production— by kinds, 1907-1922 899 from dairy cattle 284, 338, 339 situation, monthly 831-832, 876-877, 896-897 source, importance of hogs 181-184 supply for homes, hogs slaughtered on farms 269-270 trade, international, 1911-1921, by countries 808 Meats— condemned under inspection 913 exports, statistics—956, 962, 963, 970, 971 grades and standards—20 marketing studies—17-18 prices, wholesale, by months—910-911 production increase, suggestion—9 1001		
food supply of farm, sources 1000 forest fires, causes, size, damage, and area, 1921 931, 935 rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 white-pinc forestry, profitableness 153–154 Meal, corn, exports 959, 963 Meat— consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production— by kinds, 1907–1922 809 from dairy cattle 284, 338, 339 situation, monthly 831–832, 876–877, 896–897 source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats— condemned under inspection 913 exports, statistics—956, 962, 963, 970, 971 grades and standards—20 marketing studies—17–18 prices, wholesale, by mouths—910–911 production increase, suggestion—9 1001		
forest fires, causes, size, damage, and area, 1921	farms, classification by size	1008
rye production, 1839–1849 504 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 white-pine forestry, profitableness 153–154 Meal, corn, exports 959, 963 Meat— consumption, total and per capita, 1907–1922 810–811 exports, comparison of beef, mutton, and pork 249–251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production— by kinds, 1907–1922 809 from dairy cattle 284, 338, 339 situation, monthly 831–832, 876–877, 896–897 source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats— condemned under inspection 913 exports, statistics—956, 962, 963, 970, 971 grades and standards—20 marketing studies—970–911 prices, wholesale, by months—910–911 production increase, suggestion—9 1001	food supply of farm, sources	1000
taves on farm real estate	norest ares, causes, size, damage, and area, 1921	951, 950 504
wages on farm, 1913 and 1922 996 white-pinc forestry, profitableness 153-154 Meal, corn, exports 959, 963 Meat—		
white-pine forestry, profitableness 153-154 Meal, corn, exports 959, 963 Meat 2059, 963 consumption, total and per capita, 1907-1922 810-811 exports, comparison of beef, mutton, and pork 249-251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production 809 from dairy cattle 284, 338, 339 situation, monthly 831-832, 876-877, 896-897 source, importance of hogs 181-184 supply for homes, hogs slaughtered on farms 269-270 trade, international, 1911-1921, by countries 808 Meats 918 condemned under inspection 918 exports, statistics 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17-18 prices, wholesale, by months 910-911 production increase, suggestion 1001		
Meal, corn, exports		
Meat		
exports, comparison of beef, mutton, and pork 249-251 imports, statistics 950 packers, butter brands, note 362 packing centers, location, relation to freight rates 230 production— by kinds, 1907-1922 809 from dairy cattle 284, 338, 339 situation, monthly 831-832, 876-877, 896-897 source, importance of hogs 181-184 supply for homes, hogs slaughtered on farms 269-270 trade, international, 1911-1921, by countries 808 Meats— condemned under inspection 913 exports, statistics 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17-18 prices, wholesale, by months 910-911 production increase, suggestion 1001	Meat—	
imports, statistics	consumption, total and per capita, 1907–1922	810–811
packers, butter brands, note		
packing centers, location, relation to freight rates 230 production— by kinds, 1907-1922 809 from dairy cattle 284, 338, 339 situation, monthly 831-832, 876-877, 896-897 source, importance of hogs 181-184 supply for homes, hogs slaughtered on farms 269-270 trade, international, 1911-1921, by countries 808 Meats— 918 condemned under inspection 918 exports, statistics 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17-18 prices, wholesale, by months 910-911 production increase, suggestion 1001		
production— by kinds, 1907–1922	packers, butter brands, note	
by kinds, 1907–1922		
from dairy cattle 284, 338, 339 situation, monthly 831–832, 876–877, 896–897 source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats 918 exports, statistics 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17–18 prices, wholesale, by months 910–911 production increase, suggestion 1001	hy kinds 1907-1922	809
situation, monthly 831–832, 876–877, 896–897 source, importance of logs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats 918 exports, statistics 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17–18 prices, wholesale, by months 910–911 production increase, suggestion 1001	from dairy cattle	284, 338, 339
source, importance of hogs 181–184 supply for homes, hogs slaughtered on farms 269–270 trade, international, 1911–1921, by countries 808 Meats— 918 condemned under inspection 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17–18 prices, wholesale, by months 910–911 production increase, suggestion 1001	situation, monthly	831-832, 876-877, 896-897
trade, international, 1911–1921, by countries	source, importance of hogs	181–184
Meats— 918 condemned under inspection 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17-18 prices, wholesale, by months 910-911 production increase, suggestion 1001		
condemned under inspection 918 exports, statistics 956, 962, 963, 970, 971 grades and standards 20 marketing studies 17–18 prices, wholesale, by months 910–911 production increase, suggestion 1001		808
exports, statistics	Meats—	019
grades and standards	condemned under inspection	056 062 062 070 071
marketing studies	exports, statistics	20 , 200, 200, 200, 210, 211
prices, wholesale, by months	grades and standards	
production increase, suggestion 1001	prices, wholesale, by months	910-911
storage holdings, 1917-1922, by months 911	production increase, suggestion	1001
	storage holdings, 1917-1922, by months	911

Mendum, S. W., E. Z. Russell, S. S. Buckley, O. E. Baker, C. E. Bons, R. H. Wilcox, H. W. Hawthorne, O. C. Stine, G. K. Hoi A. V. Swarthout, W. B. Bell, G. S. Jamieson, C. W. Warburton	LMES,
C. F. Langworthy, article on "Hog production and marketing"	181_220
Messenger service, department, welfare work	59_59
Meteorology, staticitics, by States and by months	-1033-1044
Mexico, lard imports from United States Michigan—	273
buckwheat production, 1839–1919	550-551
cold-storage space, 1922	1019
form—	
expenses 1008	5, 1006, 1007
mortgage debt	100 £
operators, nativity	1003
population, lands, etc., in 1920	
farmers' food-supply sources	
farms, classification by size	
flaxseed production, 1919	541
forest—	
depletion, effect on industries	95-98
fires, causes, size, damage, and area, 1921	933, 937
rye production, 1889-1919	505-507
taxes on farm real estate	
wages on farm, 1913 and 1922	
Middle West, hog-industry development, 1840-1920	
Middlings, prices at Minneapolis, 1919–1922, by months	
Midge, sorghum, principal enemy of grain sorghum	530
Milk—	
bottles, sterilization for health protection	
certified, origin and first production	336
chocolate. See Milk, condensed.	
condensed—	
consumption increase	
course of industry, 1919–1922, graph	
experiment and patent	310
exports and imports for 1909-1921, graph	302
marketing methods and demand	
production by States	
relation to sugar prices	
condenseries, location in United States	
consumption propaganda by officials	
cost formulas, note	
exports, statisticsimports, statistics	
introduction in West by friars	
market, source for large cities	
marketing—	200, 200
from farms, 1879-1919	303, 304
relation of railroad transportation	306
markets in large cities	
powder—	
production note	310
use increase	
See also Condensed milk.	
price index number with hay and feed	382
prices	
in comparison with other goods in New York City, 1899-1922	384
wholesale and retail, by months	841-845
producers—	
in relation to marketing	
market problems	
production—	
and uses in United States, table	203
cost, discussion	
cost in overhead and small items	345-351

Index.

Milk-Continued.

cost units	MIIK—Continued.	_
increase, suggestion 1001 quality improvement, factors 387 sales in large cities, surplus plan 383 separator, relation to dairying 317 shipment, conditions and distances 387 spollage in long-distance transportation 388 statistics 381 surar. See Milk, condensed 381 surplus, plan for disposal 389 transportation by highways 350-359 difficulties 353, 354 unloading platform at railway terminal 355 use 57 for household purposes 294 in diet in United States 294-287 waste in utilization 10 mited States 291-295 waste in utilization 294 whole, consumption in several countries 291 viole, consumption in several countries 281 Milking machines, statistics of manufacture and sale 1026 Millich harvest season 388 Milling 100 rice, methods 519-522 rye, location of mills 519 cost of production, variation with region 554 introduction into Southern States 528 Milling complete citie 588 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete citie 598 Milling complete 598 Milling complete 598 Milling complete 598 Milling complete 598 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling 698 Milling	production—continued.	Page.
quality improvement, factors 337 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331 331	COST HILLS	348, 349
Sales in large cities, surplus plan	increase, suggestion	1001
Separator, relation to dairying 317	quanty improvement, factors	337
Shipment, conditions and distances	Sales in rarge cities, surplus pani-	383
Spoilage in long-distance transportation	separator, relation to dairying	317
Satisfies See Milk Condensed Surpius plan for disposal 389	supplient, conditions and distances	337
Sugar. See Milk condensed. 389	sponage in long-distance transportation	358
Surpius, plan for disposal transportation— by highways. 356-359 difficulties 353, 354 difficulties 353, 354 Use—	Statistics	841–845, 853
fransjortation— by highways	sugar. See Mirk, condensed.	
by highways		389
difficulties	transportation—	
unloading platform at railway terminal use— for household purposes	by mgnways	356-359
Use	difficulties	353, 354
for household purposes		355
in diet in United States	USe-	
utilization in United States 291-292 294 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295 295	for household purposes	294
waste in utilization	in diet in United States	284–287
whole, consumption in several countries 287 yield in relation to pure-bred cattle 328 Milking machines, statistics of manufacture and sale 1026 Milling 988 Milling 519-522 rice, methods 509-510 Millo 509-510 cost of production, variation with region 554 introduction into Southern States 528 Mine timbers, consumption 109 Mines, products, freight tonnage of railways, 1916-1922 1012 Mining 200 cumps, demand for cheese 385 timber, practices and extent 84 Minnesota 84 Minnesota 822 cold-storage space, 1922 1019 cooperative creameries 386 farm expenses expenses 1005, 1006, 1007 Interpretations, lands, etc., in 1920 1009 farmers' food-supply sources 999, 100 farms, classification by size 1008 rank in dairying 209, 301 rye production, 1870-1919	utilization in United States	291-295
yield in relation to pure-bred cattle 328 Milking machines, statistics of manufacture and sale 1026 Millict, harvest season 988 Milling 519-522 rice, methods 509-510 Milo 509-510 cost of production, variation with region 554 introduction into Southern States 528 Mine timbers, consumption 109 Mines, products, freight tonnage of railways, 1916-1922 1012 Mining 2 camps, demand for cheese 365 timber, practices and extent 84 Minnesota- 20d-storage space, 1922 1019 cooperative creameries 386 farm expenses 1005, 1006, 1007 labor, hours in day 1077 mortgage debt 1003 population, lands, etc., in 1920 1009 farmer' food-supply sources 999, 1000 farmers' food-supply sources 999, 1000 farkseed production, 1879-1919 538-541 fiaxseed production, 1879-1919 538-541 forest fire	waste in utilization	294
Milleu. harvest season 988 Milleu. harvest season 988 Milling 519-522 rice. methods 519-522 rye. location of mills 509-510 Milo 554 cost of production, variation with region 554 introduction into Southern States 528 Mine timbers, consumption 109 Minings, products, freight tonnage of railways, 1916-1922 1012 Minings 2 camps, demand for cheese 365 timber, practices and extent 84 Minnesota 84 cold-storage space, 1922 1019 cooperative creameries 386 farm expenses 1005, 1006, 1007 labor, hours in day 1077 mortgage debt 1007 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farmers' food-supply sources 999, 1000 faxssed production 1879-1919 534-545 faxses on farm real estate 1002 wages on farm, 1913 and 1	whole, consumption in several countries	287
Milling	yield in relation to pure-bred cattle	328
Milling— rice, methods 519-522 rye, location of mills 509-510 Milo— cost of production, variation with region 554 introduction into Southern States 528 Mine timbers, consumption 109 Mining— 208 camps, demand for cheese 365 timber, practices and extent 84 Minnesota— 84 cold-storage space, 1922 1019 cooperative creameries 386 farm— expenses 1005, 1006, 1007 Iabor, hours in day 1077 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farmers' food-supply sources 999, 1000 farmers fires, causes, size, damage, and area, 1921 538, 937 rank in dairying 290, 301 rye production 506-507, 555 staticitics of days' work for horses 1078 taxes on farm real estate 1002 wages on farm, 1913 an	Milking machines, statistics of manufacture and sale	1026
rice. methods	Millet, harvest season	988
rye, location of mills	Milling—	
Milo—cost of production, variation with region introduction into Southern States 554 (introduction into Southern States) 528 Mine timbers, consumption 109 Minines, products, freight tomnage of railways, 1916–1922 1012 Mining—camps, demand for cheese—camps, demand for cheese—camps, demand for cheese—camps, demand for cheese—cold-storage space, 1922—1019 365 Minnesota—cold-storage space, 1922—1019 1019 cooperative creameries—1005, 1006, 1007 386 farm—1007 expenses—1005, 1006, 1007 ighor, hours in day—1007 1007 population, lands, etc., in 1920—1920—1920 1008 farmers' food-supply sources—1008 999, 1000 farmers' food-supply sources—1008 999, 1000 fax marketing by grades in 1919–1922, graph—1544, 545 544, 545 fiax seed production parameters food-supply sources—1008 993, 937 rank in dairying—209, 301 299, 301 xye production—1002 506–507, 555 statictics of days' work for horses—1002 1008 wages on farm, 1913 and 1922—1009 996 Mississippi—1006 1005, 1006, 1007 mortgage debt—1009 1009 mortgage d	rice, methods	519–522
cost of production, variation with region	rye, location of mills	509-510
introduction into Southern States	Milo-	
introduction into Southern States	cost of production, variation with region	554
Mine timbers, consumption 109 Mines, products, freight tonnage of railways, 1916–1922 1012 Mining— 365 camps, demand for cheese 365 timber, practices and extent 84 Minnesota— cold-storage space, 1922 1019 cooperative creameries 386 farm— expenses 1005, 1006, 1007 izbor, hours in day 1077 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 fax marketing by grades in 1919–1922, graph 544, 545 faxseed production, 1879–1919 589–541 forest fires, causes, size, damage, and area, 1921 933, 937 rank in dairying 299, 301 rye production 506–507, 555 statictics of days' work for horses 1078 taxes on farm, 1913 and 1922 100 Mississippi— cold-storage space, 1922 100 cold-storage space, 1922 <t< td=""><td>introduction into Southern States</td><td> 528</td></t<>	introduction into Southern States	528
Mining.— camps, demand for cheese	Time timbers consumntion	109
Mining—camps, demand for cheese_camps, timber, practices and extent. 365 timber, practices and extent. 84 Minnesota—cold-storage space, 1922 1019 cooperative creameries 386 farm—expenses 1005, 1006, 1007 ighor, hours in day 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 fax marketing by grades in 1919-1922, graph 544, 545 flax marketing by grades in 1919-1922, graph 544, 545 flax merketing by grades in 1919-1922, graph 544, 545 flax marketing by grades in 1919-1922, graph 544, 545 flax merketing by grades in 1919-1922, graph 549, 301 rorest fires, causes, size, damage, and area, 1921 933, 937 rank in dairying 299, 301 rye production 506-507, 555 statictics of days' work for horses 1078 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Mississippi— 209, 1000 cold-storage space, 1922 1005 <	Tribute from the temperature of reilways 1016-1009	2012
camps, demand for cheese	Willias Diolines, incigni connast of removed, roto-1022	1014
timber, practices and extent 84 minnesola— cold-storage space, 1922 1019 cooperative creameries 386 farm— expenses 1005, 1006, 1007 lgbor, hours in day 1077 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flax marketing by grades in 1919-1922, graph 544, 545 fiaxseel production, 1879-1919 539-541 forest fires, causes, size, damage, and area, 1021 933, 937 rank in dairying 299, 301 rye production 500-507, 555 statictics of days' work for horses 1078 taxes on farm real estate 1002 wages on furm, 1913 and 1922 996 Mississippi— cold-storage space, 1922 1019 farm— expenses 1005, 1006, 1007 mortgage debt 1008 operators, nativity 1009 farmers' food-supply sources <td< td=""><td>Mining</td><td></td></td<>	Mining	
Minnesota— cold-storage space, 1922	Mining—	365
cold-storage space, 1922 1019 cooperative creameries 386 farm expenses 1005, 1006, 1007 igbor, hours in day 1077 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flax marketing by grades in 1919-1922, graph 544, 545 flaxseel production, 1879-1919 539-541 forest fires, causes, size, damage, and area, 1921 933, 937 rank in dairying 290, 301 rye production 506-507, 555 statictics of days' work for horses 1078 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Mississippi cold-storage space, 1922 1019 farm expenses 1005, 1006, 1007 mortgage debt 1004 1009 farmers' food-supply sources 999, 1000 farmers' food-supply sources 999, 1000 farms, classification by size 1005 forest fires, causes, size, damage, a	Mining—	365
cooperative creameries	Mining— camps, demand for cheese timber, practices and extent	365 84
Expenses	Mining— camps, demand for cheese timber, practices and extent Minnesota— and storage space 1922	365 84
expenses	Mining— camps, demand for cheese timber, practices and extent Minnesota— and storage space 1922	365 84
Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Index Inde	Mining— camps, demand for cheese timber, practices and extent Minnesota— cold-storage space, 1922 cooperative creameries	365 84
mortgage debt	Mining— camps, demand for cheese— timber, practices and extent—— Minnesota— cold-storage space, 1922———————————————————————————————————	365 84
operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flax marketing by grades in 1919-1922, graph 544, 545 flaxseed production, 1879-1919 539-541 forest fires, causes, size, damage, and area, 1921 933, 937 rank in dairying 299, 301 rye production 506-507, 555 statictics of days' work for horses 1078 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Mississippi cold-storage space, 1922 1019 farm— expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1006 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 936 rice production 1849-1919 515-517	Mining— camps, demand for cheese timber, practices and extent Minnesota— cold-storage space, 1922 cooperative creameries farm— expenses telor, hours in day	365 84 1019 386 1005, 1006, 1007
population, lands, etc., in 1920 1000 farmers' food-supply sources 999, 1000 farms, classification by size 1008 flax marketing by grades in 1919-1922, graph 544, 545 flaxseed production, 1879-1919 539-541 forest fires, causes, size, damage, and area, 1921 933, 937 rank in dairying 299, 301 rye production 500-507, 555 statictics of days' work for horses 1078 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Mississippi 2004 cold-storage space, 1922 1019 farm 2005 expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1006 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 936 rice production 1849-1919 515-517	Mining— camps, demand for cheese— timber, practices and extent— Minnesota— cold-storage space, 1922— cooperative creameries— farm— expenses— izbor, hours in day———— mortgage debt	365 84 1019 386 1005, 1006, 1007 1077 1004
farmers' food-supply sources	Mining— camps, demand for cheese— timber, practices and extent— Minnesota— cold-storage space, 1922— cooperative creameries— farm— extenses——————————————————————————————————	365 84 1019 386 1005, 1006, 1007 1077 1004 1008
farms, classification by size	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1007 1004 1008
flax marketing by grades in 1919-1922, graph 544, 545 fiaxseed production, 1879-1919 539-541 forest fires, causes, size, damage, and area, 1921 933, 937 rank in dairying 299, 301 rye production 506-507, 555 statictics of days' work for horses 1078 taxes on farm real estate 996 Mississippi cold-storage space, 1922 1019 farm expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1005 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 936 rice production 1849-1919 515-517	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1007 1004 1008
flaxseed production, 1879–1919	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000
forest fires, causes, size, damage, and area, 1921 933, 937 rank in dairying 299, 301 rye production 500-507, 555 statictics of days' work for horses 1078 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Mississippi cold-storage space, 1922 1019 farm expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 936 rice production 1849-1919 515-517	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545
rank in dairying	Mining— camps, demand for cheese— timber, practices and extent— Minnesota— cold-storage space, 1922— cooperative creameries— farm— expenses— izbor, hours in day— mortgage debt— operators, nativity— population, lands, etc., in 1920— farmers' food-supply sources farms, classification by size— flax marketing by grades in 1919—1922, graph— flax coold production 1879—1919—	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541
rye production	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937
statictics of days' work for horses 1078 taxes on farm real estate 1002 wages on farm, 1913 and 1922 996 Mississippi 2002 cold-storage space, 1922 1019 farm expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1003 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 936 rice production 1849-1919 515-517	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301
taxes on farm real estate	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301
wages on farm, 1913 and 1922 996 Mississippi— cold-storage space, 1922 1019 farm— expenses 1005, 1006, 1007 mortgage debt 1004 operators, nativity 1008 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 936 rice production 1849-1919 515-517	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1007 1004 1008 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301
Mississippi— cold-storage space, 1922	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078
cold-storage space, 1922 1019 farm— 1005, 1006, 1007 expenses 1004 mortgage debt 1008 operators, nativity 1008 population, lands, etc., in 1920 1009 farmers' food-supply sources 999, 1000 farms, classification by size 1008 forest fires, causes, size, damage, and area, 1921 932, 936 rice production 1849-1919 515-517	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078
farm— expenses——————————————————————————————————	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996
expenses	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996
mortgage debt	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996
operators, nativity	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1007 1004 1008 1009 999, 1000 1008 544, 545 539 544, 545 539 544, 545 539 541 933, 937 299, 301 506 507, 555 1078 1002 996
population, lands, etc., in 1920	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1008 1009 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996 1019
farmers' food-supply sources	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 1019
farms, classification by size	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996 1019
forest fires, causes, size, damage, and area, 1921 932, 930	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1007 1004 1003 1009 991, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996 1019 1005, 1006, 1007 1004 1005
rice production 1849-1919 515-517	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 1008 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996 1019 1005, 1006, 1007 1004 1005 1009 999, 1000
rice production, 1849-1818 Sid-Sit	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996 1019 1005, 1006, 1007 1008 1009 999, 1000 1008
1012 and 1022 996	Mining— camps, demand for cheese_ timber, practices and extent	365 84 1019 386 1005, 1006, 1007 1077 1004 1003 1009 999, 1000 544, 545 539-541 933, 937 299, 301 506-507, 555 1078 1002 996 1019 1005, 1006, 1007 1008 1009 999, 1000 1008

4	
Missouri-	
furn	Page
e>penses	1005, 1006, 1007
mortgage debt	
operators, nativity	
population, lands, etc., in 1920	1()();)
farmers' food-supply sources	
farms, classification by size	
flaxeced production, 1879–1909	
forest fires, causes, size, damage, and area, 1921	
log shipments, 1918	231
rice production in 1919	517
rye production in 1869	504
sorghum, acreage, etc., 1922	528, 529
taxes on farm real estate	1002
wages on farm, 1913 and 1922	996
Mohawk Valley, dairying in early days	308
Molasses	
exports, statistics	960, 961
freight tonnage of railways 1916-1922	1012
naports, statistics	954 961 966
production in Louisiana, 1911-1922	781
Montana—	+OL
	1019
cold-storage space, 1922	I('13
farm—	#00° #000 #00°
expenses	
mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920	
farmers' food-supply sources	999, 1000
farms, classification by size	1008
flaxseed production, 1909-1919	541
forest fires, causes, size, damage, and area, 1921	933, 938
wages on farm, 1913 and 1922	
Mortgages, farm, by States	
Mosaie disease—	1001
control studies	26
tobacco envoyd note	424
tobacco, spread, note	1I O O
Courses and take any W. Marketter, 11. D. LORIE, P. 13. WILLIAMON,	205 400
Stine, article on "History and status of tobacco culture"	
Moth, gipsy, distribution	163
Motion pictures, department output and circulation	
Motor trucks, fleets, use in live-stock marketing	253
Mouth, sore, infectious disease of young pigs	219
Mowers, statistics of manufacture and sale	1024
Mules—	
exports, statistics	
prices, by ages and classes	913
statistics, number, value, etc, 1870-1923	811-817
world, numbers, by countries	
See also Horses.	
Mushrooms, imports, statistics	955
Mutton—	
consumption, total and per capita, 1907-1922	810-811
exports, statistics	
imports, statistics	950
production, and per cent of all meats, 1907-1922	809
trade, international, by countries	001 000
bretto, interioriti, by countries————————————————————————————————————	001-00 <u>~</u>
Naval stores—	
exports, statistics	957 961 969 975
world trade, by countries, 1909-1921	701.700
Nebraska—	(01-(02
cold-storage space, 1922	4040
deirving spet of broning over and and decimal	1019
dairying, cost of keeping cow and producing milk	346, 347, 348
expenses	
mortgage deht	

Nebraska—Continued.	
farm -	
farmers' food-supply sources	Page
114(-15)(-15)(-15)(-15)(-15)(-15)(-15)(-15)	F00 F14
TOTAL IN CA. CAUSES, SIZE, ORINAGE AND AREA 1991	000 000
hog shipments, 1918_rye production, 1899_	231
SOLEHRIN, SCHESPE, CIC., 1922	EDO FOO
Netherlands, pork exports	253
INC V 31 (13)	
cold-storage space, 1922	1019
farm—	4005 4000 400
expenses. mortgage debt	1005, 1006, 1007
operators, nativity	enar
population, lands, etc., in 1920	1000
Tarmers' Tood-supply sources	999 1000
rarins, classification by size	1008
100d Supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	933, 938
wages on farm, 1913 and 1922	996
dairy production, early	302
tarming, relation of dairying to development	307
rye growing, early history	503
New Hampshire—	
buckwheat production, 1839	550
cold-storage space, 1922	1018
expenses	1005 1006 1007
mortgage debt	1005, 1006, 1001
operators, nativity	1003
population, lands, etc., 1920	1009
Tarmers' food-supply sources	999, 1000
farms, classification by size	1008
food supply of farm, sources forest fires, causes, size, damage, and area, 1921	1000
rye production, 1839	504
taxes on larm real estate	1002
wages on farm, 1913 and 1922	996
white-pine forestry, profitableness New Jersey—	152, 153, 154
buckwheat production, 1839-1899	EEU EE1
cold-storage space, 1922	1018
farm	
expenses	1005, 1006, 1007
mortgage debt	1004
operators, nativity population, lands, etc., in 1920	1003
farmers' food-supply sources	1009
farms, classification by size	1008
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	932, 935
rye production, 1839-1879	504, 505
taxes on farm real estatewages on farm, 1913 and 1922	1002
New Mexico—	
cold-storage space, 1922	1019
farm—	
expenses	
mortgage debtoperators, nativity	1004
	1003
35143°—увк 1922——71	

New Mexico—Continued.	
farm—continued.	Page.
population, lands, etc., 1920	1009
farmers' food-supply sources	999, 1000
farms, classification by size	1008
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	933, 938
grain sorghums, importance	
rice production in 1909	517
wages on farm, 1913 and 1922	996
New York—	E10 E10
buckwheat-growing centerbuckwheat production, 1839–1919	0±0, 0±0
Euffalo linseed-oil industry	54.1 5.15
City milk market, relation of Dairymen's League	388-389
cold-storage space, 1922	
dairy production, early	302
farm—	
expenses	1005, 1006, 1007
labor, hours in day	1076
mortgage debt	
operators, nativity	1003
population, lands, etc., 1920	1009
farmer's food supply sources	999, 1000
farming, relation of dairying to development	307
farms, classification by size	
flavseed production, 1879	
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	200 900 907
rank in dairying	209, 300, 501
rye growing, early historyrye production, 1839-1909	504 500
State, decrease of cheese industry	385 386
	1078
statistics of day's work for horses	
statistics of day's work for horsestaxes on farm real estate	1002
statistics of day's work for horses	1002 996
statistics of day's work for horses	1002 996
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm—	1002 996 1019
statistics of day's work for horses	1002 996 1019 1085, 1006, 1007
statistics of day's work for horses	1002 996 1019 1005, 1006, 1007
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity	1002 996 1019 1005, 1006, 1007 1001 1003
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920	1002 996 1019 1005, 1006, 1007 1001 1003
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources	1002 996 1019 1065, 1006, 1007 1001 1003 1003 1000 1000
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size	1002 996 1019 1005, 1006, 1007 1001 1003 1000 1009, 1000
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources	1002 996 1019 1005, 1006, 1007 1003 1000 1000 1000 1000
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921	
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909	1002 996 1019 1019 1005, 1006, 1007 1001 1003 1000 1008 1000 932, 936 515-517
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849	1002 996 1019 1005, 1006, 1007 1001 1003 1009 1009 1008 1000 932, 936 515-517
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate	1002 996 1019 1005, 1006, 1007 1001 1003 1000 1000 1000 1000 932, 936 1005 1006 1000 1000 1000 1000 1000
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota—	1002 996 1019 1005, 1006, 1007 1001 1003 1000 1008 1000 932, 936 515-517 504 1002 996
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota—	1002 996 1019 1005, 1006, 1007 1001 1003 1000 1008 1000 932, 936 515-517 504 1002 996
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate— wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm—	1002 996 1019 1065, 1006, 1007 1003 1009, 1000 1008 1000 1008 1000 932, 936 515-517 504 1002 996
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm— expenses	1002 996 1079 1079 1005, 1006, 1007 1001 1003 1009, 1000 1008 1000 932, 936 1002 932, 936 1002 996
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839-1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm— expenses mortgage debt	1002 996 1079 1005, 1006, 1007 1005 1009 1008 1000 1000 1000 1002 906 1019
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity	1002 996 1079 1079 1005, 1006, 1007 1003 1003 1008 1000 932, 936 932, 936 1002 906 1002 906 1009 1009 1009
statistics of day's work for horses taxes on farm real estate wages on farm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity— population, lands, etc., 1920— farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate— wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm— expenses mortgage debt— operators, nativity— population, lands, etc., in 1920—	1002 996 1019 1019 1005, 1006, 1007 1003 1000 1008 1000 932, 936 515-517 504 1002 906 1019 1005, 1006, 1007 1004 1003
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839—1909 rye production, 1849 taxes on farm real estate— wages on farm, 1913 and 1922 North Dakota— eold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., in 1920 farmers' food-supply sources—	1002 996 1019 1019 1005, 1006, 1007 1003 1009 1008 1000 1008 1000 932, 936 515-517
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate— wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., ln 1920 farmers' food-supply sources— farms, classification by size—	1002 996 1019 1005, 1006, 1007 1005 1009 1008 1008 1008 1009 1009 1019 1002 996 1019 1005, 1006, 1007 1004 1003 1009 1009 1009 1009
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., in 1920 farmers' food-supply sources farms, classification by size— flaxseed production, 1889–1919	1002 996 1079 1005, 1006, 1007 1001 1008 1008 1000 1008 1000 932, 936 9515-517 504 1002 996 1019 1005, 1006, 1007 1004 1003 1009 1009 1009 1009 1009 1009 1008
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— eold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., in 1920 farmers' food-supply sources farms, classification by size flaxseed production, 1889–1919 food supply of farm, sources	1002 996 1019 1019 1005, 1006, 1007 1003 1000 1008 1000 932, 936 515-517 504 1002 906 1019 1005, 1006, 1007 1004 1009 999, 1000 1008 540-541
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— eold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., in 1920 farmers' food-supply sources farms, classification by size flaxseed production, 1889–1919 food supply of farm, sources	1002 996 1019 1019 1005, 1006, 1007 1003 1000 1008 1000 932, 936 515-517 504 1002 906 1019 1005, 1006, 1007 1004 1009 999, 1000 1008 540-541
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— eold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., in 1920 farmers' food-supply sources farms, classification by size flaxseed production, 1889–1919 food supply of farm, sources rye production, 1919 wages on farm, 1913 and 1922 Nursery stock—	1002 996 1019 1005, 1006, 1007 1008 1008 1008 1008 1008 1008 1009 932, 936 9515-517 504 1002 996 1019 1005, 1006, 1007 1004 1003 1009 999, 1000 1008 540-541 1000 596
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources farms, classification by size food supply of farm, sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— eold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., in 1920 farmers' food-supply sources farms, classification by size flaxseed production, 1889–1919 food supply of farm, sources rye production, 1919 wages on farm, 1913 and 1922 Nursery stock—	1002 996 1019 1005, 1006, 1007 1008 1008 1008 1008 1008 1008 1009 932, 936 9515-517 504 1002 996 1019 1005, 1006, 1007 1004 1003 1009 999, 1000 1008 540-541 1000 596
statistics of day's work for horses taxes on farm real estate wages on facm, 1913 and 1922 North Carolina— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., 1920 farmers' food-supply sources forest fires, causes, size, damage, and area, 1921 rice production in 1839–1909 rye production, 1849 taxes on farm real estate wages on farm, 1913 and 1922 North Dakota— cold-storage space, 1922 farm— expenses mortgage debt operators, nativity population, lands, etc., in 1920 farmers' food-supply sources farms, classification by size flaxseed production, 1889–1919 food supply of farm, sources rye production, 1919 wages on farm, 1913 and 1922	1002 996 1019 1005, 1006, 1007 1008 1008 1008 1009 992, 936 952, 936 1019 1005, 1006, 1007 1008 1009 999, 1000 1008 1009 999, 1000 1008 540-541 1000 596

Nuts—Continued.	Page.
exports, statistics	959, 961
imports, statistics	953, 961
production increase, suggestion	1001
Oak, lumber production, by States, 1920	923
Oaimeal, exports, statistics	959
Oats—	
acre-yield average for 50 years	564
adaptation to wide range of conditions	
barley, rye, rice, grain sorghums, seed flax, and bu	ickwheat, article
by C. R. Ball and others	469–568
bushel weights, 1902-1922	992
cost of production, discussion	553–556, 560
crop—	222
condition and forecast, by months	622
losses, extent and causes, 1909–1921	
value rank	470
crops of 1920–1922, summary	983
disease, economic importance	050
exports, statisticsfeeding to hogs, comparison with corn	958 485
foods, feeds, and feeding	109 105
freight—	
rates for several routes, 1900–1923	7014-1015
tonnage of railways, 1916–1922	
grades for market	
harvest season	
imports, statistics	
inspection and grading	628
losses from disease, 1917–1921	477
market, receipts and shipments, 1909–1922	
marketings by farmers, monthly	624
planting dates, by States	989
position in American agriculture	564–565
prices, farm and market	623-625
production—	
and distribution, 1897-1922	622
centers, changes, 1839-1919	478-481
development and factors	474–482
discussion	471-486
quality changes	484
Red Rustproof, type for warm climate	477
and amentity nor save	990
statistics, acreage production, etc	_ 69, 70, 73, 475, 618-628
supplies, 1909–1922, monthly	
trade, international, by countries	628
varieties for cool climates	476
world production—	470 400
and distribution, discussion	412-482
by countries	519
Ochalus pugnax, habits	
Offal, edible, of hogs, production estimates, 1900–1921	210
Ohlo — buckwheat production, 1889-1919	550_551
buckwheat production, 1889-1919	1019
cold-storage space, 1922	310
dairying development, note	
farm— expenses	1005 1006 1007
expenses	1076
lubor, hours in daymortgage debt	
operators, nativity	1003
population, lands, etc., in 1920	1009
farmers' food-supply sources	999, 1000
flaxseed production, 1849–1899	539-540
naxseen production, 1949-1999-1-1991	099 0977

Oil	•
Oil— cake—	Page.
and meal, exports, statistics	959, 961, 962, 074
feed, trade, international, by countries	600
imports, statisticscottonseed—	953, 961
international trade, by countries	700
prices at New York, 1909-1923, by months	722 722
Sec also Cottonseed oil.	
linseed, prices at New York, 1910-1923, by months	654
meal— exports, statistics	050 001 000 054
prices at New York, 1910–1923	
Oils—	33.3
edible, exports, 1916-1921	272
necessity in diet	270
need in manufacture of munitionsvegetable—	270
exports, statistics	959 961 964 974
imports. statistics	272, 953, 961, 980
relation to lard and use in substitutes	
statistics	1029-1032
Oklahoma— cold-storage space, 1922	1019
farm—	1019
expenses	1005, 1006, 1007
mortgage debt	1004
operators, nativity	
population, lands, etc., in 1920 farmers' food-supply sources	
farms, classification by size	
forest fires, causes, size, damage, and area, 1921	933, 937
grain sorghums, establishment, etc	525, 526, 528, 529
wages on farm, 1913 and 1922	996
Oleo oil, exports, statisticsOleomargarine—	956, 970
materials used in manufacture	852-853
production—	
by months	
table	
statisticsOlive oil—	891–893
imports, statistics	953, 966, 980
trade, international	
Olives, imports, statistics	
Omaha, market for heavy hogsOnions—	233
acreage and production, by States	765
crops of 1920-1922, summary	984
exports, statistics	960
harvest season	
imports, statisticsprices, farm and market, 1910–1922, by months	765_767
shipments, carlot, by States	test 26, test
statistics, production, prices, etc	765–767
Opium, crude, imports, statistics	_ 953, 961, 966, 980
Oranges—	985
crops of 1920-1922, summaryexports, statistics	958, 972
freight rates for several routes, 1900–1923	1017
imports, statistics	952, 967
prices, wholesale, by months	746
production and value, 1915–1922shipments by carlots	745 745
Orchard grass, seed quantity per acre	990
Por delication and an arrangement of the second	

Oregon—	Page
cold-storage space, 1922	1019
cooperative cheese factories	386
expenses mortgage debt	1005, 1006, 1007
operators, nativity	1004
population, lands, etc., in 1920	1003
Tarmers Tood-sonniv sources	ሰለበተ በሰብ
rains, classification by size	1000
forest fires, causes, size, damage, and area, 1921	099 090
taxes on timperiands	109 104
wages on farm, 1913 and 1922	996
Packers and Stockyards Act—	
benefit to farmers	
enactment and enforcement	47-48
Packing-house products—	
exports, statistics	955, 961, 962-968
imports, statistics	950
Palm oil, imports, statistics	953
Paper, consumption in United States and world	108
Parasite, beneficial, importations	38
Pasteurization, process and its value	336
Pasture—	005
improvement suggestions	332
value as source of feed for dairy cattle	332
Peaches—	004
crops of 1920–1922, summaryexports, statistics	
harvest season	
prices—	000
by States and by months	739, 741
wholesale, at principal markets	
production, by States, 1899-1922	739–740
shipments, by States and by months	741–742
statistics, production, prices, etc	739–742
Peanut oil—	
exports, statistics	959
trade, international	1029
Peanuts—	004
crops of 1920-1922, summary	
exports, statistics	
harvest seasonimports, statistics	
oil imports, 1912–1918, and uses	
pasture for hogs	
seed, quantity per acre	
statistics, production, prices, etc	759-760
trade, international, by countries	760
Pears—	
crops of 1920-1922, summary	984
exports, statistics	958
harvest season	988
prices by States and by months	743-744
production by States, 1909-1922	743-744
shipments, by States, 1909–1922	745
statistics, production, prices, etc	743-745
Peas-	700
canned, production, 1906-1922, by States	762
dried imports statistics	954
statistics, production, prices, etc	757 750
world production, by countries	191-198
Pennsylvania—	
buckwheat— growing center	54R 540
growing center	550-561
To be a second to the second t	

mnsylvania—Continued.	Page.
cold-storage space, 1922	1018
dairy production, early	302
farm— expenses 10	7001 2001 70
mortgage debt	
operators, nativity	
population, lands, etc, in 1920	
farmers' food-supply sources	
farms, classification by size	
food supply of farm, sources	1000
forest— depletion, effect on industries	09.05
fires, causes, size, damage, and area, 1921	932 936
products, consumption and sources	
rye production, 1839-1909	504-506
taxes on farm real estate	1002
wages on farm, 1913 and 1922	996
ms, stock, manufacture and sale	1027
epper, imports, statistics	
riodicals, Department, consolidation	
hlegethontrus species, injury to tobacco, and control	
ckles—	
exports, statistics	960
imports, statistics	955
g surveys, cooperation of Post Office Department	19
gs— diseases and ailments	219
feeder, production, industry development	
losses, causes	224, 225, 226
numbers in litters, and average cost	223-225
ne—	
beetle, western, distribution, damage and control work	
beetles, distribution of species	163
forests, menace by white-pine blister rust maritime, planting on sand lands in France, cost and revenues	
stumpage prices of species	011-001
sugar, lumber production, by States, 1920	923
western yellow, lumber production by States, 1920	921
white-	
blister-rust control	28
lumber production, by States, 1920	921
yellow, lumber production, by States, 1920neapples, imports statistics	920 952
STOR, A. J., C. F. LANGWORTHY, C. W. LARSON, L. M. DAVIS, O. A.	TITVE.
O. C. STINE, and A. E. WIGHT, article on "The dairy industry "	281-394
ant	
diseases, control studies	26
quarantine, necessity	
anters, statistics of manufacture and sale	
anting, dates by States for important cropsow lands, values by States, 1920-1923	200 200
owing, statistics of acreage per day	
bws, statistics of manufacture and sale	1021, 1028
neumonia, hog, serious results	219
iplar, yellow, lumber production, by States, 1920	924
)rk	ore nor a
cold storage holdings, 1916–1922, graph	254
consumption— factor of marketing	947959
per capita, 1907–1921	
total and per capita, 1907–1922	810-811
curing on farm, methods	269-270
cuts, home methods, illustration	268

Pork—Continued.				
exports—			P	age
1790, 1867–1871, 1877–1881			186,	190
and nog prices, 1919-1922, graph				4745
17,y 1111/111 110; 1+/1 ()—1+/			()()()	-908
Gestination, 1949-1921				$\alpha \alpha c$
114C(1141(101)S, 1794-1949)			010	-250
SUBSICS	956 969	030	COTT	0176
trend, 1790-1914, review and maps		273-	275,	277
value			_	184
foreign demand and trade, discussion	248-	253,	273,	279
freight rates, Chicago to New York, 1896-1922, graph				25:
imports, statisticsinspection, microscopic, for trichinæ, 1898–1906, results			_	950
inspection, microscopic, for trichinæ, 1898–1906, results				218
unernational trace			070	-275
market prices, wholesale and retail, 1913-1922				895
production—				
and per cent of all meats, 1907-1922			-	808
estimates, 1900–1921			-	270
products—				_
exports, trend, 1790-1914, review and maps		273-	-275,	277
international trade			273-	-27
marketing history			227-	-230
statistics, 1910–1922			908-	-913
tariff duties, summary			279-	-280
soft, causes				
tariff duties, summary			279-	
trade, international, by countries				906
use as food				
Porto Rico, farm products shipments, 1919-1921			-	969
Post Office Department, cooperation in pig survey				19
Potatoes—				co co c
acreage, production and value by States				668
erop—				670
condition and forecasts, 1901–1921				67:
losses, causes and extent				470
value rankerops of 1920-1922, summary				983
exports, statistics				960
freight—				500
rates for several routes, 1900–1923		16	77_1	1018
tonnage of railways, 1916–1922		(1	01
harvest season				98
imports, statistics			954.	
prices, farm and market	670-672.	673-	-674.	676
	0.0 0.0		.,,	•••
				000
production and value 1849 1922				668
and value, 1849 1922			_ 1	500 1001
and value, 1849 1922			_ 1	
and value, 1849 1922 increase, suggestion seed quantity per acre			_ 1	1001 1001
and value, 1849 1922			1 677-	1001 996 -679
and value, 1849 1922			1 677- 69	1001 996 -679
and value, 1849 1922			_ 1 677- _ 69 59-1	1001 996 -679), 78
and value, 1849 1922			_ 1 677- _ 69 59-1 666-	1001 990 -679), 78 1061 -679
and value, 1849 1922			_ 1 677- _ 69 59-1 666-	1001 990 -679), 78 1061 -679
and value, 1849 1922		1(_ 1 677- - 69 059-1 666- 673-	1001 990 -679), 78 1061 -679
and value, 1849 1922			_ 1 677- _ 69 059-1 666- 673-	1001 99(-679), 78 1061 -679 -674
and value, 1849 1922		10		1001 99(-679), 78 1065 -679 -674
and value, 1849 1922		10		1001 99(-679), 78 1065 -679 -674
and value, 1849 1922		10	_ 1 677- 69 059-1 666- 673- 666- 670-	1001 990 -679), 75 1065 -679 -675 -671
and value, 1849 1922 increase, suggestion seed quantity per acre shipments, 1917–1922, by States statistics— acreage and production, 1910–1922 of day's work in several operations production, prices, etc. stocks in growers' and dealers' hands sweet. See Sweet potatoes. trade, international, by countries world, acreage and production by countries yield, by States Poultry— dressed market receipts by months		10	_ 1 677- 69 059-1 666- 673- 666- 670-	1001 996 -679 -679 -679 -674 -675 -671
and value, 1849 1922 increase, suggestion seed quantity per acre shipments, 1917–1922, by States statistics— acreage and production, 1910–1922 of day's work in several operations production, prices, etc. stocks in growers' and dealers' hands sweet. See Sweet potatoes. trade, international, by countries world, acreage and production by countries yield, by States Poultry— dressed, market receipts, by months freight toppage of railways, 1916–1922		10	_ 1 	1001 996 -679 -679 -679 -674 -675 -671 -866 1013
and value, 1849 1922 increase, suggestion seed quantity per acre shipments, 1917–1922, by States statistics— acreage and production, 1910–1922 of day's work in several operations production, prices, etc_ stocks in growers' and dealers' hands sweet. See Sweet potatoes. trade, international, by countries— world, acreage and production by countries yleld, by States— Poultry— dressed, market receipts, by months freight tonnage of railways, 1916–1922— production increase suggestion.		10	_ 1 	1001 996 678 1065 678 678 678 678 678 1011 1001
and value, 1849 1922 increase, suggestion seed quantity per acre shipments, 1917–1922, by States statistics— acreage and production, 1910–1922 of day's work in several operations production, prices, etc stocks in growers' and dealers' hands sweet. See Sweet potatoes. trade, international, by countries world, acreage and production by countries yleld, by States Poultry— dressed, market receipts, by months freight tonnage of railways, 1916–1922 production increase, suggestion statistics_market receipts, etc		10	677- 69 0591 666- 673- 666- 070- 1 1864- 1863-	1001 996 679 1062 679 674 674 671 1001 1866
and value, 1849 1922 increase, suggestion seed quantity per acre shipments, 1917–1922, by States statistics— acreage and production, 1910–1922 of day's work in several operations— production, prices, etc. stocks in growers' and dealers' hands— sweet. See Sweet potatoes. trade, international, by countries— world, acreage and production by countries— yield, by States— Poultry— dressed, market receipts, by months— freight tonnage of railways, 1916–1922— production increase, suggestion— statistics, market receipts, etc— statistics, market receipts, etc— statistics, market receipts, etc— statistics, by months— statistics, market receipts, etc— statistics, market receipts, etc— statistics, by months— statistics, market receipts, etc— statistics, by months— statistics, market receipts, etc— statistics, by months— statistics, by months— statistics, market receipts, etc— statistics, by months— statistics, market receipts, etc— statistics, by months— statistics, market receipts, etc— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics, market properties— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics— statistics		10	_ 1 677- _ 69 559-1 666- 673- - 666- 670- 864- - 1 - 1	1001 1990 1679 1, 78 1062 1674 1677 1686 1001 1600 1600 1600 1600 1600 1600
and value, 1849 1922 increase, suggestion seed quantity per acre shipments, 1917–1922, by States statistics— acreage and production, 1910–1922 of day's work in several operations production, prices, etc_ stocks in growers' and dealers' hands sweet. See Sweet potatoes. trade, international, by countries— world, acreage and production by countries yleld, by States— Poultry— dressed, market receipts, by months freight tonnage of railways, 1916–1922— production increase suggestion.		10	_ 1 677- _ 69 559-1 666- 673- - 666- 670- 864- - 1 - 1	1001 1990 1679 1, 78 1062 1674 1677 1686 1001 1600 1600 1600 1600 1600 1600

, , , ,	,
Prairie hay, production and value, 1909-1922	Page.
Prairies, development in rice growing, note	088, 691, 693
Precipitation, statistics, by States and by months	1022 1044
Presses, hay, statistics of manufacture and sale	1005
Prices—	
apples, farm and wholesale	730, 733, 734-736
beans, 1910-1922, by months	754-755 756
broom corn, 1910-1922, by months	758
buckwheat on farm, by States and months, 1908-19	22 646
butter—	
and cheese in 122 years	376
in five marke(s	379
method of fixing, for United States markets	383–385
cabbage, 1910–1922, by months	
calves, farm and market	
cattle	818, 820–831
cheese—	
at New York	
basis of making	385–386
control by cheese boards	
citrus fruits, wholesale, by months	
corn, farm and market	
cotton, farm and marketcottonseed—	115, 115-120
1910-1922, by months	721
oil, by months, at New York	
dairy products—	
discussion	375_386
in large markets, discussion	379–381
method of fixing	
eggs, farm and market, 1909-1922, by months	858-859
factors for local dairymen	377
farm products, discussion by Secretary	3-8, 10-12
farmer's, for purchases	994–995
feed, 1910-1923, by months	
flaxseed—	
by States and by months	652
farm and market	
grain sorghums, farm and market	
hay, farm and market	
hay-crop seed, farm and market	699–700, 702
hogs—	000 005
farm and market, 1867–1923	
fluctuations, problem of marketing	
hops, 1913–1922horses, by States and by months	
lard, by months	909
linseed oil, 1910–1923, by months	654
milk—	
cows, 1910–1922	821–822
relation to competition, inspection, etc	
wholesale and retail, by months	841-845
oats, farm and market	623-625
onions, farm and market, 1910-1922, by months	765–767
peaches, farm and wholesale	739, 741
peanuts, 1910–1922, by months	
pears, farm and market	743–744
potatoes, farm and market	670–672, 673–674, 676
rice, farm and market, 1900-1923	659–662
rye, farm and market	641–642
sheep, farm and market	867–869, 871–876
strawberries, at 10 markets	772
sweet potatoes, farm and market	681–683
tobacco—	
form and market	795 799

Prices—Continued.	Page.
tomatoes, farm and market, by months	768–769
turnips, 1913-1922, by months	
uniformity in dairying	284
vegetable seeds, by kinds, 1910–1922	
wheat, farm and marketwool, farm and market, by months	
Prohibition, effect on barley production and trade	
Protein, supply by milk, butter, etc.	
Prunes, exports, statistics	
Pruning, statistics of day's work	1068
Publications-	
Division, reorganization	46, 47
Division, reorganizationnew and reprints, 1922, number of copies and demand for	44-46, 75
Paln—	
mills, Pennsylvania, source of supplies	94–95
wood—	
consumption	
imports, statistics	952
prices paid by paper mills	
world trade, by countries, 1909-1921	19±
See also Wood.	1027
Pump jacks, statistics of manufacture and salePumps, statistics of manufacture and sale	1026
Pure-bred cattle. See Cattle.	
Pynchon, John, first American pork packer	228
Quarantine, nursery stock, plants and seed, necessity	33-34
Radio, use in disseminating market news	98 99
Railroad, Michigan, suspension, relation of forest depletion	00, 00
Railroads— extension, effect on packing industry	189
Pennsylvania, timber supplies, sources	94
relation to milk production and trade	306
atriba in input a farmers	0
transportation of milk, discussion	353-356
Parilyrong	
freight tonnage for farm products, 1916-1922	1012
lumbor traffic of Washington and Oregon	109
Rain statistics by States and by months	1033-1044
Raiging	
exports, statistics	958
imports, statistics	7094
Dalag statistics of manufacture and sale	1021
Raspberries, harvest season	218_219
Rats, carriers of trichine	1024
Rats, carriers of trichmaz	334
Red clover, usefulness in dairy feedingRedwood, lumber production, 1920	922
Redwood, lumber production, 1920	106-107
Reforestation, sandy lands of France, cost and reverses	
Refrigeration— factor—	
in hog marketing	255
in milk handling	551
mothed in reil chimments	
Degional councils nature and object	10
The state of the s	
Research, scientific, results	25-26
cold-storage space, 1922	1010
C	
expenses	1005, 1006, 1004
manufacture dobt	
operators, nativitypopulation, lands, etc., in 1920	
population, ranges, etc., in 1920	999, 1000

, , ,	
Rhode Island—Continued.	Page.
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	
taxes on farm real estate wages on farm, 1913 and 1922	1002 996
Rice-	(791)
acreage, production and value, by States	658
by-products, feed use	524
eost of production, discussion	556-557
crop—	/**O
condition and forecast by monthslosses, extent and causes	
value rank	
crops of 1920-1922, summary	
diseases, important	519
exports—	
1712–1921	
imports and prices, notesstatistics	
feeding to live stock	
food use and value	
grades	
harvest season	
importance as food grain	512
Imports— 1861-1921	mag
statistics	
insects, habits	
marketing and milling	
milling and marketing	
position in American agriculture	566–567
prices—	500
1901-1923 farm and market, 1900-1923	520 659_669
production—	(MAC/
and value, 1904–1922	658
consumption, exports and imports, 1821–1921	523
discussion	
factorshistory in United States, maps	
increase, suggestion	
of world countries, 1920, map	
seed quantity per acre	
statistics-	22
acreage and production, 1910-1922	
of day's workproduction, prices, etc	457-665
trade	
international, by countries	663
international, map and discussion, 1920	521-523
water requirements	
world production, by countriesyield and acre value, by States	657-658
Roads—	
Federal aid, construction progress and cost	41-43
forest, construction, 1922	43
Rodents, eradication work, cost and saving	28-29
Rosin—	057 069 075
exports, statisticsworld trade, by countries, 1909-1921	051, 566, 565
Rotten-neck, rice diseases	519
RUSSELL, E. Z., S. S. BUCKLEY, O. E. BAKER, C. E. GIBBONS, R. H.	WILCOX.
H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. HOLMES	s, A. V.
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTON, an	nd C. F.
LANGWORTHY, article on "Hog production and marketing"	181-280

Index. - 1125

Russia— buckwheat production in 1909–1913 flaxseed production, pre-war, and exports hogs, increase, graph	594 595
rye production, 1910–1914	185 501
blister, white-pine, control work	28
out, damage to crop	543
white-pine blister, distribution	477 165
Rusts—	
damage to barley	496
rye, losses in 1917-1921	509
Rye—	
production and value by States	0.10
yield, production, and price, trend, 1866–1922	501-502
and corn, fattening hogs with	511-512
belt, location	508
characteristics related to production	566
cost of production—	
discussion	
variation with region	554
crop— comparison with wheat	507 500
condition and forecast, by months	
value, rank	
crops of 1920–1922, summary	983
demand increase, and outlook	511-512
exports—	
in 1920, 1921	
statistics	
feeding to live stockfood use	
hardiness, note	
harvest season	988
land suitable for	
losses from disease, 1917–1921	509
market receipts, 1909-1921	642-643
position in American agriculture	500 510
marketing and milling milling and marketing	509-510
prices—	_ 000 010
cause of change	511
farm and market	641-642
production—	200
and value, 1849–1922	639 501 519
discussionhistory in United States	503-507
maps, 1839-1919	_ 504-507
seed quantity per acre	990
soil for hest production	555
sowing time and seed bed	559
atatistias	
acreage, exports, and production, 1910-1922	69, 70, 73
production, prices, etctime of sowing, etc	556
toleration of moisture and dryness	566
the do intermetional by countries	643
world production and acreage, by countries	637–638
Sacks, rice, cost per acre	952 961
Sago, imports, statistics	30-31
Sandy land, fitness for rye	536
a and ancing avnorts, statistics	956

Saw	Page,
machinery, statistics of manufacture and sale	1027
timber—	
consumption, United States and world	108 100
cut, consumption, and growth comparisons	145 146
stands, relative, by States	077
Sawfly, larch, distribution	
Scab, rye, losses in 1917–1921	163
Scald, barley, damage to crop	
School, graduate, for scientific workers in Department	30
Secretary, Agriculture, report, 1922	1-82
Seed-	
beds, tobacco, sterilization methods	416
clover. See Clover seed.	
flax. See Flax seed.	
grain, loans, 1922, and collection of old loans	51 52
hay crops, statistics, production, prices, etc	698-704
quantity per acre for important crops	
rice, cost in growing crop	
	557
timothy. See Timothy seed.	# 000
Seeders, statistics of manufacture and sale	1023
Seeds-	
exports, statistics	960, 961
forage plant—	
imports, 1911-1921, by kinds	701
tests of germination and purity	704
imports, statistics	
vegetable—	, , , , , , , , , , , , , , , , , ,
imports	708
statistics, production, prices, etc	705_708
Self-feeder, use in feeding hogs.	205
Separator, milk, relation to dairying	200
	317
Sheep—	1010
and goats, freight tonnage of railways, 1916-1922	1012
exports—	
1895-1922	
statistics	
freight rates for several routes, 1900-1923	1017
imports—	
1895-1922	870
imports, statistics	
	949
	949
lusses— from disassa and exposure 1890–1923	
from disease and exposure, 1890–1923	869
from disease and exposure, 1890–1923in cooperative shipments	869
from disease and exposure, 1890–1923in cooperative shipmentsmarket—	869 882–884
from disease and exposure, 1890–1923 in cooperative shipments market— prices, by months	869 882–884 873–876
from disease and exposure, 1890–1923in cooperative shipments market— prices, by months receipts and shipments	869 882-884 873-876 877-879
from disease and exposure, 1890–1923 in cooperative shipments market— prices, by months	869 882-884 873-876 877-879
from disease and exposure, 1890–1923in cooperative shipments market— prices, by months receipts and shipments number and value on farms, by States	869 882–884 873–876 877–879 868, 871
from disease and exposure, 1890–1923in cooperative shipments market— prices, by months receipts and shipments number and value on farms, by States	869 882–884 873–876 877–879 868, 871
from disease and exposure, 1890–1923in cooperative shipments market— prices, by months receipts and shipments number and value on farms, by States	869 882–884 873–876 877–879 868, 871
from disease and exposure, 1890–1923	869 882–884 873–876 877–879 868, 871
from disease and exposure, 1890–1923in cooperative shipments market— prices, by months receipts and shipments number and value on farms, by States prices— by ages and classes increase on farm, 1867–1923	869 882–884 873–876 877–879 868, 871 913 10 867, 876
from disease and exposure, 1890–1923in cooperative shipments market— prices, by months receipts and shipments number and value on farms, by States prices— by ages and classes increase on farm, 1867–1923 shrinkage in shipment	869 882–884 873–876 877–879 868, 871 913 10 867, 876 884
from disease and exposure, 1890–1923	869 882–884 873–876 877–879 868, 871 10 867, 876 884 913
from disease and exposure, 1890–1923in cooperative shipments market— prices, by monthsreceipts and shipments number and value on farms, by States prices— by ages and classes increase on farm, 1867–1923 shrinkage in shipment slaughter under inspection statistics, number, prices, etc	869 882-884 873-876 877-879 868, 871 913 10 867, 876 844 913
from disease and exposure, 1890–1923in cooperative shipments market— prices, by monthsreceipts and shipmentsnumber and value on farms, by States prices— by ages and classes increaseon farm, 1867–1923 shrinkage in shipmentstatistics, number, prices, etc stockyards, receipts and shipments	869 882–884 877–879 868, 871 913 10 867, 876 84 913
from disease and exposure, 1890–1923	869 882–884 873–876 877–879 868, 871 913 10 867, 876 884 913 867–884 879–881, 913
from disease and exposure, 1890–1923	869 882–884 873–876 877–879 868, 871 10 867, 876 884 913 84 913 879–881, 913 795–801
from disease and exposure, 1890–1923	869 882–884 873–876 877–879 868, 871 10 867, 876 84 913
from disease and exposure, 1890–1923	869 882-884 873-876 877-879 868, 871 913 10 867, 876 913 879-881, 913 903 795-801 951, 968
from disease and exposure, 1890–1923	869 882-884 873-876 877-879 868, 871 913 10 867, 876 913 879-881, 913 903 795-801 951, 968
from disease and exposure, 1890–1923	869 882-884 873-876 877-879 868, 871 913 10 867, 876 884 913 867-884 879-881, 913 903 795-801 951, 968 1025 SMITH,
from disease and exposure, 1890–1923	869 882-884 873-876 877-879 868, 871 913 10 867, 876 884 913 867-884 879-881, 913 903 795-801 951, 968 1025 SMITH, rticle on 88-884
from disease and exposure, 1890–1923	869 882-884 873-876 877-879 868, 871 913 10 867, 876 884 913 867-884 879-881, 913 903 795-801 951, 968 1025 SMITH, rticle on 109
from disease and exposure, 1890–1923	869 882-884 873-876 877-879 868, 871 913 10 867, 876 884 913 867-884 879-881, 913 903 795-801 951, 968 1025 SMITH, rticle on 109

	Page.
Siam, rice production	
Silage—	
amount and cost for 100 pounds of milk	
statistics of day's work in handling	
usefulness in dairy feedingSi/k—	334
imports, statistics	949, 961, 965
world production, by countries, 1909–1921	794
Silos, statistics of manufacture and sale	1027
Sirups— . exports, statistics	000 001
exports, statisticsfreight tonnage of railways, 1916–1922	900, 901
maple—	
prices, by months	788
statistics, 1839–1922	787–788
production—	5 04
by States	
increase, suggestionsorghum, production and value, by States	
Sisal, imports, statistics	
Sking	
exports statistics	956
imports, statistics	_ 950, 967, 977
See also Hides.	TX7 INT
SMITH, HERBERT A, W. B. GREELEY, EARLE H. CLAPP, RAPHAEL ZON SPARHAWK, WARD SHEPARD, and J. KITTREDGE, Jr., article on "T	imher:
Mine or crop?"	83–180
Smuts—	
damaga	
to harley	496
to oats	477 530
kernel, on sorghum, controlrye, losses, 1917-1921	
Charff and Justian ingresses	453
Softwoods production and consumption	TIO-IIX
Soil, maintenance of fertility, relation of dairying	282
C-11a	
buckwheat adaptability	542
flax adaptabilityrice types	519
4-1-0-00	
est at two on quality of product	416-418
types and requirements	413-415
CY - w arth same	
harvest season	500
kafir, grain. See Kafir. saccharine, production, yield, etc., by States	788–789
sirup, production and value, by States	788
yellow milo. See Milo.	
O	567
adopte hility to dry-land farming	984
crops of 1920-1922, summary	
grain— acreage, production and value by States———————————————————————————————————	663
	es, 1909,
comparisons with other feedscost of production, discussion	001
and dition and forecast by months	
manifest of and gron importance in various states.	
nosition in American agriculture	

Sorghums—Continued.	
grain—continued.	Page.
production, discussion	525-582
production, factors affecting	529-530
production, history, and development	
statistics, production, prices, etc	663-665
varieties and uses	532-533
world production and countries	525-529
cold-storage space, 1922	4040
farm—	1019
expenses1	005 1000 1007
mortgage debt	1004
operators, nativity	
population, lands, etc., in 1920	
farmers' food-supply sources	999, 1000
farms, classification by size	1008
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	932, 936
rice industry, early history	_ 514-515, 522
rice production in 1839-1919	
taxes on farm real estate	1002
wages on farm, 1913 and 1922	996
South Dakota— barley growing, increase	500
cold-storage space, 1922	
farm—	IOLO
expenses	005 1006 1007
mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920	1009
farmers' food-supply sources	
farms, classification by size	
flaxseed production, 1889-1919	
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	938, 938
rye production, 1919	507
wages on farm, 1913 and 1922loy bean oil, imports, statistics	996
loy beans—	, 000, 700
oil imports, 1914–1918, and uses	272
seed quantity per acre	990
usefulness in dairy feeding	
pain, hogs increase, graph	185
PARHAWK, W. N., W. B. GREELEY, EARLE H. CLAPP, HERBERT A.	SMITH,
RAPHAEL ZON, WARD SHEPARD, and J. KITTREDGE, Jr., article on	"Tim-
ber: Mine or crop?"	83-180
pices, imports, statistics	304, 301
Trigrims C E Criaroscou A C Dirinan () C Smrin () R	W. D.
and O. A. Juve, article on "Oats, barley, rye, rice, grain sor	ehnus
seed flax, and buckwheat"	469-568
praying—	
outfits, statistics of manufacture and sale	1027
statistics of day's work	1068
pring wheat, planting dates, by States	089
pruce	
beetle, Engelmann, distribution	
beetles, distribution	
Immber, production, by States, 1920.	
tackers, statistics of manufacture and saletacking, statistics of day's work	
talk cutters, statistics of manufacture and sale	
talk-horer, rice, habits	
tandardizing farm products	19-21
tandardizing farm products	A. C.

Starch, exports, statistics	960, 961
States Relations Service, reorganization	40
Statistics—	
agricultural—	
exports and production, 1910-1922	69-74
from census of 1920	1003-10 0 9
of divers kindscrops, acreage, exports, and production, 1910-1922	983-1678
crops, acreage, exports, and production, 1910–1922	69-74
darrying first in United States	302
forest	914-948
grain crops, acreage, production, etc	569-665
hogs, census figures, 1840–1920	192
imports and exports of agricultural products	949-089
Staves, exports, statistics	957
Stem rust, rye, losses in 1917–1921	50g
Sterilized milk. See Milk, condensed.	
STINE, O. C.—	
A. E. WIGHT, A. J. PISTOR, C. F. LANGWORTHY, C. W. LAI	PRON T. M
Davis, and O. A. Juve, article on "The darry industry"	" 901 904
E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C. E. GIEL	DOTE D D
WILCOX, H. W. HAWTHORNE, S. W. MENDUM, G. K. HO	rana A V
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARI	LMES, A. V.
SWARTHOUT, W. B. BELL, G. S. JAMESON, C. W. WARI	SURTON RHILL
C. F. LANGWORTHY, article on "Hog production and man	rketing = 181-280
O. E. BAKER, O. A. JUYE, W. J. SPILLMAN, C. R. BALL, T. I	i. STANTON,
H. V. HARLAN, C. E. LEIGHTY, C. E. CHAMBLISS, and A. C.	J. DILLMAN,
article on "Oats, barley, rye, rice, grain sorghums, see	d nax, and
buckwheat "	1 69-568
W. W. GARNER, E. G. Moss, H. S. Yohe, and F. B.	WILKINSON,
article on "History and status of tobacco culture"	395–468
Stinkbug, rice, habits	519
Stock feeding, use and value of grain sorghums	531
Storage—	
apples, holdings, by mouths	738
butter, relation to prices	367–368
corn comparison with sorehuns	529-53(
grain sorehum, comparison with corn	529-530
tobacco, warehouse receipts, forms	411-148
Straighthead, rice, disease cause	519
Stronghaming	
harvest season	988
prices, 10 markets	772
shipments, earlot, by States	772
Strikes, railroad and coal, injury to farmers	
Strikes, ranroad and coal, injury to latmers	497
Stripe disease, barley, damage to crop	1027
Stump pullers, statistics of manufacture and sale	102
Stumpage prices—	144 156
Stumpage prices— by States	150
in European countries	191
Sugar—	
[) (, (, 1	770 F0
production, 1916–1923statistics of days' work in several operations	778, 780
statistics of days' work in several operations	1066-1067
hanvast son son	988
exports, statistics	960, 961, 964
maple, statistics, 1839–1922	787–788
maple, statistics, 1839–1922prices in relation to condensed-milk trade	394
prices in relation to condensed-milk trade-	
production—	778-789
1856-1923, by States and Territories	100
increase, suggestion	778-78

Sugar—Continued. supply, total and per capita, 1901–1920	Page.
trade, international, by countries	782 783
world production, 1909-1922, by countries	
"Surplus"—	200
plan of milk saleproperty, utilization	
SWARTHOUT, A. V., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C.	E. Grb-
BONS, R. H. WILCOX, H. W. HAWTHORNE S W. MENDUM, O. C.	
G. K. Holmes, W. B. Bell, G. S. Jamieson, C. W. Warburto C. F. Langworthy, article on "Hog production and marketing".	N, and
Sweet potato plants, seed quantity per acre	181-280
Sweet potatoes—	
acreage production and value, by States	680
crop condition and forecasts, 1902–1922, by monthsharvest season	
harvesting, statistics of day's work	1072
prices, farm and market	681-683
production— and value, 1849–1922	680
increase, suggestion	1001
shipments, 1917-1922, by States	683
statistics— acreage and production, 1910–1922	60.72
production prices, etc	680-683
yield and acre value, by States	681
Swine. See Hogs. Sycamore, lumber production, by States, 1920	928
Tank cars, use in milk transportationTanks, glass, experimental use in milk shipment	
Tanning-	
bark extracts, exports, statistics	957, 961
industry, Pennsylvania, effect of forest depletion materials, imports, statistics	
Tapioca, imports, statistics	953, 961
Tariff—	
duties on hogs, pork, and pork products, summaryrelation to dairy products	380-390
tobacco, rates, 1789–1922	456-459
Taxes—	00 400
changes, relation to forest depletion	
increase, injury to farmers	
timberlands—	
practices, discussionrelation to prosperity, etc	
tobacco, rates and dates of acts, 1862–1921	460-464
Tea—	
and coffee, production increase, suggestion	1001
world trade by countries, 1909–1921	789
Tedders, statistics of manufacture and sale	
Temperature— statistics, by months and by States———————————————————————————————————	1022-1044
storage for butter and cheese	
Tennessee—	
cold-storage space, 1922farm—	1019
expenses1(05, 1006, 1007
mortgage debt	1004
operators, nativity	
population, lands, etc., in 1920	1009
farms, classification by size	1008
food supply of farm, sources	1000
forest fires, causes, size, damage, and area 1991	G2-7 G2-7

1131

	Page.
Tests, tuberculin, use in eradication of tuberculosis	341
Texas	1010
cold-storage space, 1922	1019
(*Y)*(*I)\$e\$	1005, 1006, 1007
mortgage (leb)	
operators, nativity	1003
population; lands, etc., in 1920	
farmers' food-supply sources	999, 1000
farms, classification by sizefood supply of farm, sources	1008
forest fires, causes, size, damage and area, 1921	933 937
grain sorghums, early establishment, etc	525, 526, 528, 529
rice—	
growing, development	567
production in 1859-1919	
wages on farm, 1913 and 1922	
Threshers, statistics of manufacture and sale	1025
Threshing— flax, cost————————————————————————————————————	558
statistics of days' work	1055
Ticks, cattle, eradication and control of Texas fever	343
Ties—	
railroad, exports, statistics	
timber consumption	109
depletion, relation to lumber prices	199 192
destruction by fire, insects, etc	109
distribution of species, map	85
exports, statistics	957, 958, 976
growing—	
progress	
statusgrowth—	170-174
increase by improved forestry	141_144
rates	139, 140
imports for future, sources, discussion	128-130
lands, taxes	165, 166
logs, imports, statistics	952
mine or crop, article by W. B. Greeley, Earle H. Clapp, He Smith, Raphael Zon, W. N. Sparhawk, Ward Shepard, an	arpert A.
tredge, jr	83-180
mining—	
drain on forests, results, and remedy	178-180
practices and extent	
relation to forest depletion	84
National forests— sale and free use, 1905–1921	044 047
stand, by forests and by species, 1922	944_947
production as crop	138-144
regions, 15 principal, location map	85
requirements, future, and management	123-144
socond-growth stumpage prices by States	144-156
stands, virgin and second-growth acreage, East and West	106
substitution, growth, and effect on requirements	135-138
supply, problem, discussion	192_197
uses and consumptionutilization, study	36
waste reduction, need, and suggestions	130–135. 179
Timberland, purchase extension	37
Timothy—	
hov	**=
horvest senson	988
prices, by months	688, 692, 695

Timothy—Continued.		7	3
seed— acreage, production and value, by States			e98 898
harvest season			988
prices, farm and market	699-	-700.	708
quantity per acre			990
Tobacco—		=0 =	
acreage, production and value, by Statesby-products, utilization		725,	$\frac{727}{454}$
consumption, forms, etc., discussion		450.	
Crop—		1.50	702
financing, practices		431	-433
losses, extent and causes			728
value rank			470
crops of 1920–1922, summaryeffect of soils on quality			983
exports, statistics96	30. 961.	964	975
freight—			
rates for several routes, 1900-1923			1010
tonnage of railways, 1916-1922		:	1012
growing—		100	10-
cost distribution			
demonstrator chargesmethods and practices			
harvest season			
history and status of cultivation, article by W. W. Garner	r, E. 6	% .	
Moss, H. S. Yohe, F. B. Wilkinson, and O. C. Stine		395-	-468
imports, statistics95	54, 961,	965,	981
industry— extent and development		ອດຮ	444
growth and magnitude			
insects, descriptions, injury, and control		422.	423
internal-revenue taxes, 1862-1921			
manufactured products, production		453-	-454
marketing, methods, financing, etc		433-	-448
pests, insects and diseases		422-	425
planting dates, by Statesplants, seed quantity per acre		ขอย,	990
prices, farm and market		725-	-728
production—			
acreage, yield, etc., 1866-1921		398-	-400
and uses, historical notes		400-	-111
exports and imports, 1849–1922		448	- 150
statistics— acreage and production, 1910-1922		G	73
production, prices, etc		$\frac{1}{723}$	-729
tariff rates, 1789-1922		456-	-459
trade-			
exports and imports, historical notes			
international, by countries			729
international, discussiontypes—		'£•}'±,	-£+1+1
acreage, yield and prices			726
distribution, production, etc.		405-	415
localization of production		409-	-411
production, demand, etc			
value rankworld—		-	470
production and acreage, by countries		792-	794
production, discussion		396-	-398
yield, relation to cost of production		430-	-431
Comatoes—			
acreage and production, by States			768
canned, production, 1891–1922, by States		769-	-771
harvest season			988

	Page.
Tractor, use in rice production	
farm, statistics of manufacture and sale	1020, 1027
statistics of plowing, etc	1047
Trade— international—	
in barley	636
in corn	580
in cotton, by countries	720
in cottonseed oil, by countries	722
in oatsin oil-cake feeds, by countries	628 698
in potatoes, by countries	675
in rice, by countries	663
in rye	
in tobacco, by countries	
in tobacco, discussionin wheat	
Traffic manager, appointment	
Trails, National forests, construction and cost	
Transplanters, statistics of manufacture and sale	1023
Transportation—	00.00
cflect of forest depletioninterruption, effect on butter prices	380
milk, discussion	353-357
relation to market movements of hogs	253–255
Tree-killing insects, distribution of species	
Trichinæ, pork, injury to foreign trade	191
Trichinosis, transmission by ratsTruck crops—	
acreage and production, by kinds	761–774
Sec also under specific crop name.	
Trucks—	055 050
milk, economy of usestatistics of manufacture and sale	1026
Tuborenlin-	
preparation, decrease in cost	58
use in testing cattle	341
Tuberculosis—	20, 20
bovine eradicationcattle, relation to milk profits	340-341
oradication with Federal testing	341
have course and control	217–218
Tupelo, lumber production, by States, 1920	927
Turkeys-	863
prices on farm, 1913–1923, by monthsworld, numbers, by countries	802-803
Turnips, prices, 1913–1922, by months	771
TYPe and one of Early	
arranta atatistica	957, 968, 975
world trade, by countries, 1909-1921	192
United Kingdom—	
domand for American pork products	251, 273
have dooroogo graph	185
wheat statistics, 1853–1892	616
Utah—	1019
cold-storage space, 1922	
farm— expenses	1005, 1006, 1007
montre co deht	1004
operators nativity	1005
population, lands, etc., in 1920farmers' food-supply sources	1009
tarmers 1000-supply sources	

othy—Continued.	
seed—	Page.
acreage, production and value, by States	698
harvest season	988
prices, farm and market	
quantity per acreacco—	990
acreage, production and value, by States	725 727
by-products, utilization	
consumption, forms, etc., discussion	450-454
crop—	
financing, practices	
losses, extent and causes	
value rankcrops of 1920–1922, summary	470 983
effect of soils on quality	416–418
exports, statistics	
freight—	. , , , , , , , , , , , , , , , , , , ,
rates for several routes, 1900-1923	1016
tonnage of railways, 1916-1922	1012
growing—	100 101
cost distribution	
demonstrator chargesmethods and practices	
harvest season	
history and status of cultivation, article by W. W. Gar	rner, E. G.
Moss, H. S. Yohe, F. B. Wilkinson, and O. C. Stine	395-468
imports, statistics	. 954, 961, 965, 981
industry—	50= .33
extent and development	
growth and magnitudeinsects, descriptions, injury, and control	801-468 2011-001
internal-revenue taxes, 1862–1921	460-484
manufactured products, production	
marketing, methods, financing, etc	
pests, insects and diseases	422-425
planting dates, by States	
plants, seed quantity per acre	
prices, farm and market	725-728
production— acreage, yield, etc., 1866-1921	208_100
and uses, historical notes	4()()-411
exports and imports, 1849–1922	4-18-150
statistics—	
acreage and production, 1910-1922	
production, prices, etc.	
tariff rates, 1789-1922	
exports and imports, historical notes	.1.18150
international, by countries.	729
international, discussion	
types—	
acreage, yield and prices	726
distribution, production, etc.	405-415
localization of production	409-411
production, demand, etc.	
value rank	470
World— Draduction and caroom by countries	79279.1
production and acreage, by countriesproduction, discussion	207_224
yield, relation to cost of production	430-431
latoes—	
acreage and production, by States	768
canned, production, 1891–1922, by States	769–771
harvest season	929

1133

ers of the section of	Page.
Tractor, use in rice production	566
farm, statistics of manufacture and sale	1020 100=
statistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing, etcstatistics of plowing plowing	1020, 1027
Trade—	1041
international—	
in barley	
in corn	580
in cotton, by countries	720
in cottonseed oil, by countries	722
in outsin oil-cake feeds, by countries	628 698
in potatoes, by countriesin	675
in rice, by countriesin	663
in rve	643
in tobacco by countries	729
in tobacco, discussion	4 5 4 4 55
in wheat	617
Traffic manager, appointment	54
Trails, National forests, construction and cost	43
Transplanters, statistics of manufacture and sale	1023
Transportation— effect of forest depletion————————————————————————————————————	98 90
interruption, effect on butter prices	380
101112 (112011001A1)	00057111
volution to market mayoments of boos	405~205
Throughilling inspets distribution of species	105-164
Mariolaine monte infilter to fonction trade	[91
Trichinosis, transmission by rats	218–219
acreage and production, by kinds	101-114
See also under specific crop name.	
milk, economy of use	357-359
statistics of manufacture and sale	1026
anather degrees in cost	58
use in testing cattle	341
bovine eradication	340-247
eradication with Federal testing hog, causes and control	
Tupelo, lumber production, by States, 1920	927
	863
prices on farm, 1913–1923, by monthsworld, numbers, by countries	802-803
world, numbers, by countries	771
Turpentine-	957 968 075
rurpentine— exports statistics world trade, by countries, 1909–1921	709
world trade, by countries, 1909–1921	102
TT. 11. 7. TTImesTown	
United Kingdom— demand for American pork products	251, 273
hogs, decrease, graphwheat statistics, 1853–1892	185
wheat statistics 1853-1892	616
Utah— cold-storage space, 1922	1019
farm—	1005 1000
	1009, 1006, 1007
population, lands, etc., in 1920 farmers' food-supply sources	999, 100
farmers' food-supply sources	100

Utah—Continued.	Page.
food supply of farm, sources	1000
forest fires, causes, size, damage, and area, 1921	933 939
wages on farm, 1913 and 1922	996
Vanilla beans, imports, statistics	954, 961
Veal-	010 011
consumption, total, and per capita, 1907–1922dairy, quality, with proper handling	810-811
production—	339
and per cent of all meats, 1907–1922	809
from dairy calves	
Vegetable seeds—	
imports, 1910–1922	708
statistics, production, prices, etc	
Vegetables—	
exports, statistics	
grading	20
imports, statistics	
production increase, suggestion	
receipts, at principal markets, by months	
shipments, carlot, by months	
Vehicle stock, consumption	
Velvet beans, pasture for hogsVeneer, logs, consumption	
Vermont—	100
buckwheat production, 1839–1899	550-551
cold-storage space, 1922	1018
dairying, cost of keeping cow and producing milk	346, 347, 348
farm—	
expenses	_ 1005, 1006, 1007
mortgage debt	
operators, nativity	1003
population, lands, etc., in 1920	
farmers' food-supply sources	
farms, classification by size	
forest fires, causes, size, damage, and area, 1921	
taxes on farm real estate	1002
wages on farm, 1913 and 1922	
Vinegar, production increase, suggestion	1001
Virginia— buckwheat production, 1839–1899	550_551
cold-storage space, 1922	1019
farm—	
expenses	_ 1005, 1006, 1007
mortgage debt	
operators, nativity	
population, lands, etc., in 1920	1009
farmers' food-supply sources	
farms, classification by size	1008
forest fires, causes, size, damage, and area, 1921	932, 936
rice production in 1889, 1899	516, 517
rye production, 1839–1869	
taxes on farm real estate	000
wages on farm, 1913 and 1922Vitamin A—	996
foods containing	186
supply by milk and eggs	287
Vitamins, relation to dairy feeding, note	335
Wages—farm—	
by classes, 1910–1922	997
by classes and States, 1913 and 1922	996
Wagons, statistics of manufacture and sale	1025–1026
Wallace, Henry C., report as Secretary of Agriculture	1–82

War-	Page
Finance Corporation, activities, help to farmers	
World, effect on rve production	501-505
WARBURTON, C. W., E. Z. RIISSELL S. S. RIICKLEY, O. B. BAKER	. C. H. (TR-
BUNS, R. H. WILCOX, H. W. HAWPHOPNE S. W. MEDIIM, U.	I. C. STINE.
G. N. HOLMES, A. V. SWARTHOUT W R RELL G S. JAMIESON	v. and C. F.
DANGWORTHY, article on "Hog production and marketing"	181-280
warehouse Act, administration	24-2
warehouses	
licensed, number and capacity	24-25
tobacco—	
locations	448
management under Warshouse Act	445–448
warenousing, cold-storage	367-373
wasnington—	
cold-storage space, 1922dairying, cost of keeping cow, and production	1019
dairying, cost of keeping cow, and production	346, 347, 348
rarm—	
expenses	_ 1005, 1006, 1007
mortgage debt	100-
operators, nativity	1008
population, lands, etc. in 1920	1009
farmers' food-supply sources	999, 1000
Tarms, classification by size	1008
food supply of farm, sources	1000
forest fires, causes, size damage and area, 1921	933, 939
taxes on timberlands	103, 104
wages on farm, 1913 and 1922	996
Waste	
lands, forestation, financial returns	144-156
milk, in making butter and change	294–295
timber, reduction and suggestions	130-135
water, cost in rice growing, remarks	357
watermelons—	
harvest season	988
Shipments, carlot, by States	778
Water-weevil, rice, habits	518
wax, vegetable, imports, statistics	955, 961
Weather—	
Bureau, economies effectedCrops, and Markets, new periodical	57
Crops, and Markets, new periodical	56
weeds, injurious to flax	542
Weevil, boll. See Boll weevil.	
Weights, carload, for farm products, etc	1011
West Virginia—	
buckwheat production, 1899	551
cold-storage space, 1922	1019
farm	
expenses	- 1005, 1006, 1007
mortgage debt	1004
operators, nativity	1003
population, lands, etc., in 1920	1009
farmers' food-supply sources	999, 1000
Tarms elassification by size	1008
forest fires causes size damage and area, 1921	932, 930
Tares on farm real estate	
wages on farm, 1913 and 1922	990
western Reserve, farming development	310
Wheat—	#00 #00
acreage, production, and farm value, by States	088-089
average, production, and farm value, by States, 1900–1922	388
busnel weights, 1902–1922	992
crops	

Wheat—Continued. crops of 1920–1922, summary	Page. 983
exports—	
by months, 1910–1922	583, 613, 614
statistics	958, 964, 973
freight—	
rates for several routes, 1900-1923	
tonnage of railways, 1916–1922	1012
harvest—	500
by monthsseasonseason	
imports—	988
from Canada, by months, 1913–1922	613
statistics	952, 965, 966
inspection and grading, 1917-1922	610
market, receipts and shipments	610
marketings, monthly, by farmers	
position in American agriculture	561, 562
prices—	MOT 000
farm and market	595-606
foreign markets, 1912–1922 on farm, by months and States, 1908–1922	500 507
production—	590, 597
and distribution in United States, 1897–1922	590
by States, 1915–1919	
cost by States, 1913, 1920, 1922	594
increase, suggestion	
seed quantity per acre	
spring, yield, by States	593–594
statistics—	
acreage, exports, and production, 1910-1922	69, 70, 73
production, prices, etc	581-617
supply— and distribution in 1900–1922	e11 e19
by months, 1889–1922	
trade, international, by countries, 1909–1921	
world—	
acreage and production, by countries	581-582
production, by countries, 1899–1921	586–587
supply, by months, 1892–1922	607
yield—	Wa. 1 Waw
by countries, 1899–1921	584, 585
by States, 1899-1922price, and acre value, by States, 1913-1922	002-003, 004
principal States, 1899–1922	509_508
White potatoes. See Potatoes.	
Vhite-pine—	
blister rust, distribution and menace to pine forests	165
forestry, profitableness, examples	152-154
VILCOX, R. H., E. Z. RUSSELL, S. S. BUCKLEY, O. E. BAKER, C.	. E. Gibbons,
H. W. HAWTHORNE, S. W. MENDUM, O. C. STINE, G. K. H	
SWARTHOUT, W. B. BELL, G. S. JAMIESON, C. W. WARBURTO	on, and C. W.
LANGWORTHY, article on "Hog production and marketing" Vild hay, harvest season	181-280 988
Vildfire, tobacco disease, symptoms, occurrence, etc	494_495
VILKINSON, F. B., W. W. GARNER, E. G. Moss, H. S. Youe, and	IO C STINE
article on "History and status of tobacco culture"	395-468
Vilt diseases—	
tobacco, note	424
flax, prevention by resistant varieties	542
Vindmills, statistics of manufacture and sale	1027
Visconsin—	
cheese boards as price makers	385_386
cold-storage space, 1922	1019
cooperative cheese factories	386